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Education as a Preparation for Work: an investigation of an episode of mathematics curriculum development in Ireland based upon the participant objectivation methodology of Pierre Bourdieu

Two Volumes

VOLUME I

JOHN EVANS

A Thesis Submitted for the degree of
Doctor of Philosophy

University of Dublin

1999

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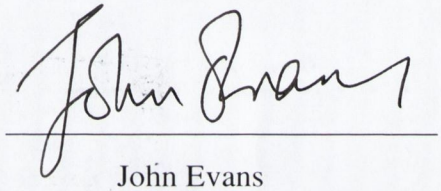

John Evans

SUMMARY

This work examines a specific curriculum development initiative - the mathematics element of the Leaving Certificate Applied programme introduced in the Republic of Ireland in 1995. Chapter One shows that the methodology of this work is intended to reconcile the subjective knowledge of practice (practical knowledge) with the objective knowledge revealed by research (scholarly knowledge) through a study of the type described by the sociologist Pierre Bourdieu as *participant objectivation*. The aims of this study are to apply Bourdieu's approach to the episode of curriculum development given here as an object of enquiry situated within education as a preparation for work, and to consider the implications of this study for the teaching and learning of mathematics.

The objectives of this study are:

To make an objective and historical analysis of the social, cultural, and educational institutions, agents and practices surrounding a specific curriculum development initiative concerned with education as a preparation for work (Chapters Two to Six).

To obtain an objective view of the interests and benefits which may attach to a teacher who takes part in a curriculum development project and writes a scholarly work about that practice (Chapters Seven to Nine).

To present the empirical practice of the curriculum development project by means of documents and materials and to explore the relations between such practice (and agents' representations of it) and objective social structures (Chapter Ten to Thirteen and Appendices A to J).

To consider the implications of this study for the teaching and learning of mathematics, and to make recommendations (Chapter Fourteen).

Chapter Fifteen attempts to draw together the different strands of the thesis by reviewing the four objectives for the work, analysing the outcomes, and making recommendations for the teaching and learning of mathematics.

The relation between the evolution of the nature and extent of the provision of resources for general and vocational education in Ireland is interpreted as homologous with the relation between the historically varying positions of the Roman Catholic church and the State in a contest for the right to teach and for the right to employ. The impact of an uneven history of industrialisation upon both the State and the Roman Catholic church is assessed as a mediating term in these homologous relations, a discussion which draws on the theory of nationalism of Ernest Gellner. It is concluded that the contemporary organisational arrangements for the control and ownership of the institutions of post-primary education represent a *de facto* concordat between a powerful, industrialised and nationalist State and an increasingly secularised, and hence pluralist, set of churches. The dimensions of this consensus in education are examined and the increasingly powerful role of the universities identified.

The creation of the Mathematical Applications modules of the Leaving Certificate Applied programme as a case study in curriculum development is described in detail, at the level of practice, with a significant matter of disagreement providing the possibility of identifying the differing perspectives the participating agents brought to the common task. The social position and trajectories of agents involved in such exercises are examined, and the particular advantages to this author, both as participant and author, are assessed.

An analysis of the evolution of educational policy directed towards supporting industrial expansion concludes that the contemporary policy objective of retention of students in school is in conflict with the emerging paradigm in education and training for employment; and that, in particular, the absence of discussion about what mathematics should be taught in school, and why, in a period of mass participation, has prevented the valuing of mathematical knowledge which is useful. It is concluded that the traditional, highly

differentiating curriculum represents a body of knowledge that is fracturing into one part which is increasingly seen as culturally arbitrary and another part which is increasingly valued as contributing to the creation of a general industrial vernacular and specific technical competences.

The relation of the practices of teachers of mathematics programmes (such as that developed for the LCA) to the play of large and conflicting social forces is examined, with a view to appraising the differing accounts of what these teachers are doing: recycling working-class resistances or reproducing social structure. The mathematical roots of Bourdieu's notion of *homology* are analysed with a view to a better understanding of how it might be applied. Investigations of the *homology* of social relations are made on the basis of the materials produced in this work: the homology of relations between differentiated provision for post-primary education *over time*, the differentiated provision for post-primary education in mathematics on the basis of *social class* and *gender*, and the differentiated control and ownership of institutions of post-primary education between religious institutions and the state.

ACKNOWLEDGMENTS

This author would like to acknowledge the assistance of his former colleagues in the development team for the Mathematical Applications modules of the Leaving Certificate Applied programme, and also that of the Chief Executive and the Assistant Chief Executive of the National Council for Curriculum and Assessment for permitting the formal interview which forms part of this work to take place.

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INTRODUCTION

The context within which this work is set is provided by a specific curriculum development initiative - the Leaving Certificate Applied (LCA) programme introduced in the Republic of Ireland in 1995. The reader who is unfamiliar with the system of education in Ireland may find it helpful to know that the Leaving Certificate Applied (LCA) programme was introduced as part of an "expanded senior cycle provision designed to cater for the diversity of student needs." [1] The phrase "expanded provision" refers to a government policy objective that by 1999 some ninety percent of "the age group" would have completed the senior cycle of post-primary education.[2] The suitability of the existing programme, the "traditional Leaving Certificate", to meet the needs of all senior cycle students was said to have been "subject to question for a number of years." [3] The LCA was intended "to meet the needs of those students who are not adequately catered for by other Leaving Certificate programmes" or "who choose not to opt for such programmes." [4] The LCA was said to have evolved from curriculum development projects aimed at strengthening the "technological/vocational options at Senior Cycle." [5] Its primary objective was said to be "the preparation of participants for adult and working life." [6] It was a "distinct and self-contained programme of two years duration." [7]

The students who follow the LCA programme may expect that a premium will be placed on the "personal and social development of participants." [8] The progress of the students will be

---

[1] Preamble, *Leaving Certificate Applied - Programme Statement* (Dublin: An Roinn Oideachais, n.d.), p. 1.

[2] Government of Ireland, *Education for a Changing World - Green Paper on Education* (Dublin: Stationery Office, 1992) p. 37. Students beginning post-primary education must be aged at least 12 years and follow a junior cycle of three years duration, followed by an optional transition year, followed by a senior cycle of two years duration.

[3] Preamble, *Leaving Certificate Applied - Programme Statement*, p. 1.

[4] Ibid., p. 3.

[5] Ibid., p. 1.

[6] Ibid., p. 3.

[7] Ibid.

[8] Ibid.

assessed by "an appropriate range of modes and techniques." [9] Students who successfully complete the programme will have access to further education and training through a new "national system of vocational qualifications." [10]

The LCA was to have "a strong community base so as to complement the school as a learning location." [11] There was to be provision for "teacher development through in-career training in a broad range of teaching methodologies, team co-ordination and the management of pupil centred learning." [12] The LCA was said to satisfy "the criteria for EU funding in schools",[13] and was said to consist of "three main elements: Vocational Preparation; Vocational Education; General Education." [14]

The foregoing sketch of the LCA, given in the terms used by official documents to describe it, should give an indication of the range of issues this thesis will consider. Certain key phrases are now evident: diversity of student needs, general and vocational education, the transition to work. The reader may already have certain expectations about what will follow in this work: the terms of current debates, the problematics of educational policy in technological societies. However, a central feature of this work is the claim that certain problematic issues remain unresolved so long as they are viewed from *within* the contexts in which they appear as natural, familiar issues - one case in point here being the nature of *general* education; another, the *consensual* nature of the curriculum. For the sociologist Pierre Bourdieu, one of the most powerful instruments of rupture with the preconstructed and familiar attributes of objects of enquiry is to "retrace the history of the emergence of these problems, of their progressive constitution...as *legitimate* problems, problems that are avowable, publishable, public, official".[15] In consequence, as the Leaving Certificate Applied programme sits within the problematic context of *universal public provision of*

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[9] Ibid.

[10] Ibid.

[11] Ibid.

[12] Ibid.

[13] Ibid.

[14] Ibid.

[15] Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology* (Cambridge: Polity Press, 1992), p. 238.

vocational and general education in Ireland, this work will examine the historical emergence of such *universal* provision as an official issue.

Bourdieu offers an hypothesis which is well expressed in his study of the elite *écoles* in France, *The State Nobility*:

> In keeping with the usual view, the goal of sociology is to uncover the most deeply buried structures of the different social worlds that make up the social universe, as well as the "mechanisms" that tend to ensure their reproduction or transformation. Merging with psychology, though with a kind of psychology undoubtedly quite different from the most widely accepted image of this science, such an exploration of objective structures is at one and the same time an exploration of the cognitive structures that agents bring to bear in their practical knowledge of the social worlds thus structured. Indeed there exists a correspondence between social structures and mental structures, between the objective divisions of the social world - especially the division into dominant and dominated in the different fields - and the principles of vision and division that agents apply to them.[16]

Wacquant sees this hypothesis as a development of the idea expressed by Durkheim and Mauss in 1903:

> cognitive systems operative in primitive societies are derivations of their social system: categories of understanding are collective representations, and the underlying mental schemata are patterned after the social structure of the group.[17]

Bourdieu's development of this idea is said to have four features: the correspondence between cognitive and social structures obtains in modern societies, a correspondence produced in the main by the school system[18]; mental schemata are to be treated as the physical embodiment of social divisions; the correspondence between structures serves a political end, in that it gives an appearance of naturalness and necessity, rather than historical contingency, to social divisions; and that, in consequence of this last, cognitive structures and systems of classification are produced by, and are a stake in, the power

---

[16] Pierre Bourdieu, *The State Nobility* (Cambridge: Polity Press,1996), p. 1.

[17] Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology* (Cambridge: Polity Press, 1992), p. 12. The reference is to E. Durkheim and M. Mauss, *Primitive Classification*, ed. Rodney Needham (Chicago: University of Chicago Press, 1963).

[18] P. Bourdieu, " Systems of Education and Systems of Thought", *Social Science Information* 14 (1967), no. 3: 338 - 58, cited in Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 12.

relations between classes.[19]

The reader should note the extent of Bourdieu's hypothesis. The author of a classifying work such as an academic thesis must become an object of analysis as much as the (other) historically and socially situated phenomena which are to be studied. There will, however, be no rich autobiographical passages; what is of interest here is that which makes the author of this work *banal*, a type. The author of this work is a post-primary teacher who participated in the development of one aspect of the LCA programme: Mathematical Applications.[20] This participation is a source of a great deal of empirical data, notably the series of drafting and other documents which were produced as the curriculum project progressed. Such data and participation provide opportunities and problems, and both are examined in this work.

In a way, a study which examines Bourdieu's hypothesis that there exists a correspondence between social structures and mental structures might just as well examine taste in wallpaper as episodes in curriculum development. What gives the educational case the more significance is the special role which, in Bourdieu's view, is assigned to education:

> (The sociology of education) leads us, in fact, to an understanding of the "mechanisms" responsible for the reproduction of social structures and for the reproduction of the mental structures that, because they are genetically and structurally linked to these objective structures, favor the misrecognition of their truth and thus the recognition of their legitimacy. Given that...the structure of social space as observed in advanced societies is the product of two fundamental principles of differentiation - economic capital and cultural capital - the educational institution, which plays a critical role in the reproduction of the distribution of cultural capital and thus in the reproduction of the structure of social space, has become a central stake in the struggle for the monopoly on dominant positions.
>
> It was necessary to bury the myth of the "school as liberating force," guarantor of the triumph of "achievement" over "ascription," of what is conquered over what is received, of works over birth, of merit and talent over heredity and nepotism, in order to perceive the educational institution in the true light of its social uses, that is, as one of the foundations of domination and of the legitimation of domination.[21]

If the foregoing is the case, what is a teacher to make of it? What is a teacher of

---

[19] Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 14.

[20] National Council for Curriculum and Assessment (NCCA) and Department of Education, *Leaving Certificate Applied, Mathematical Applications* (Dublin: NCCA/An Roinn Oideachais, n.d.).

[21] Pierre Bourdieu, *The State Nobility*, p. 4.

mathematics to make of it? If it is possible to teach at all in the face of such an analysis, how and what should one teach? In short, what would constitute a rational pedagogy?

The aims of this study, then, are to

> apply Bourdieu's approach to the episode of curriculum development given here as an object of enquiry situated within education as a preparation for work, and to consider the implications of this study for the teaching and learning of mathematics.

The objectives of this study are:

> To make an objective and historical analysis of the social, cultural, and educational institutions, agents and practices surrounding a specific curriculum development initiative concerned with education as a preparation for work.
>
> To obtain an objective view of the interests and benefits which may attach to a teacher who takes part in a curriculum development project and writes a scholarly work about that practice.
>
> To present the empirical practice of the curriculum development project by means of documents and materials and to explore the relations between such practice (and agents' representations of it) and objective social structures.
>
> To consider the implications of this study for the teaching and learning of mathematics, and to make recommendations.

The management of a project, such as this thesis represents, which has many levels of analysis, ranging from the most abstract to the most practical, turns largely upon the question of the organisation of the written material, and, in particular, upon the explanation and application of some of the more unfamiliar and difficult concepts used in this work. What follows is an outline of the organisation of this work, with an explanation of why each part is where it is, and what function each part is intended to serve.

Part One (Method and Context) contains three chapters which set out issues that are central

to this work. Chapter One (Methodological Considerations) is intended to explain that the activity of taking part in a practice and writing about it for others is a good deal more open to question than at first might appear. In particular, what can be said about the evaluation of the practice that results? How can all the knowledge that accrues to an actor from being engaged in a familiar practice be combined with the knowledge that arises from treating the practice as an exotic and historically contingent *object*, and treating the author as an *actor* (or as an *agent*) who has interests to promote (or serve)? To reconcile behaviour with structure is not a trivial matter, for such an ambition effectively poses the question of the reunification of sociology as a *scientific* discipline. Bourdieu's *unifying* hypothesis, given above, is contrasted with the more pragmatic project of *linking* behaviour to structure, in order to make clear the scale and ambition of Bourdieu's project. This exposition of ideas is interrupted at moments where it appears best to indicate how the application of these ideas within the context of this work will proceed. While it should be clear that an understanding of the purposes of this work and its structure depend greatly upon a reading of Chapter One, the short sketch of ideas given above should be sufficient to sustain the remainder of this first glance of the work as a whole.

Chapter Two (Schools, Teachers, Teaching), offers an objective characterisation of each of the terms in its title, and may be seen both as a reexamination of the relationship between structure and behaviour, but now situated in the contexts which will be examined in this work, and also as an examination of objective views of what it is to be a teacher. The intention here is to move to an objective characterisation of those teachers who, in the course of their practice, address the results of the policy of mass participation in post-primary education via specially developed programmes, and of those students who follow such programmes. The work of Bourdieu and of Drudy and Lynch provides a context within which this characterisation is situated. The technical orientation in education is examined through Lynch's research in Irish schools, which reveals the special status of mathematics. The work of remedial teachers is considered, especially their involvement in the development of special programmes and in the teaching of mathematics, and their methodology is assessed against Bourdieu's notion of a rational pedagogy. Curriculum developments in mathematics in a period of mass participation are reviewed.

Chapter Three (Historical Overview) is intended to historicise general and vocational education in the Irish context and to chart the emergence of the provision of education as a

preparation for work as an official issue - this is intended to rob the terms 'vocational education' and 'general education' of their given or familiar appearance, to make them exotic. An overview of the history of the relationship between vocational and general education in Ireland in given here in five phases: the period prior to independence in 1921; the period from 1921 to the Vocational Education Act (1930) which includes the report of the Ingram Commission of 1926-27; the period from 1930 to 1948, an era of intense social conservatism; the period from 1948 to 1957 and the impact of post-war reconstruction and Cold War in Europe; and the period beginning in 1957, which includes the publication in 1957 of *Economic Development*, the *Apprenticeship Act* (1959), the statement by the minister for education in 1963 on comprehensive education, the publication of *Investment in Education* in 1966, the establishment of the community schools, and Ireland's accession to the European Economic Community.[22] The historical overview is followed by a discussion, relating events and trends to the analysis of the power relations in the education system given at the beginning of Chapter Two of this work. Power relations between church and state, and the impact of nationalism and uneven industrialisation are considered. Chapter Three concludes with a review of events which form the context from which the Leaving Certificate Applied (LCA) programme emerged.. These events are characterised as attempts to form a secular consensus as to the aims of the Irish education system, a consensus which finally emerges from an officially sponsored, public convention of interests. A discussion concludes both this chapter and this part of the work.

Part Two (Education as a Preparation for Work) focusses on the formation of educational policy and the establishment of consensus at national and international level concerning general and vocational education. It has three chapters entitled The Educational Policy Background from which the LCA Programme Emerged (Chapter Four), The Development of the LCA and LCV Programmes (Chapter Five), and a concluding Discussion (Chapter Six). Chapters Four and Five consist of a very close reading of national and international official documents which relate to the formation of policy (and to several changes in the direction of policy formulation) with regard to vocational education and to education as a preparation for work, and the programmes proposed for implementation in the Irish

[22] Commission on Technical Education, *Report*, (Dublin: The Stationery Office, 1928); Department of Education, Technical Instruction Branch, *Memorandum V. 40: organisation of whole-time continuation courses in borough, urban and county areas* (Dublin: Department of Education, n.d. c. 1942); *Economic Development* (Dublin: The Stationery Office, 1958); *Apprenticeship Act, 1959*, No. 39 in public statutes of the Oireachtas; Department of Education, *Investment in Education*, 2 vols., (Dublin: The Stationery Office, 1966).

education system. The Green Paper of 1992 is considered as a key document.[23] The concluding Chapter Six (Discussion) begins the examination of Bourdieu's hypothesis concerning structure and behaviour. Similarities are sought between structures that are contemporary and between structures that are separated in time.

Part Three (Participant Objectivation) marks the turn towards an objectified view of *practice and the participative* in this work. Chapter Seven (Teachers and Curriculum Development) is intended to assess the benefits and interests which may accrue to teachers who take part in curriculum development projects, that is, to identify the stakes in the game and to sketch a *type*. Chapter Eight (A Discussion Document of 15th. October, 1994) marks the personal engagement of this author in the episode of curriculum development examined here. The document also marks the origin of this thesis, and marks a conjuncture between practice and an objectivised practice. Much of the discussion in Chapter Eight concerns the social basis of learning, and the views of Vygotsky and of scholars such as Cole, Rogoff, and Lave are considered in greater detail in Appendix A (The Social Basis of Learning: Vygotsky, Cole, Rogoff, and Lave), in Volume Two of this work. Chapter Nine (The Social Basis of Learning) is intended to make explicit the theory of learning which informed this author's practice.

Part Four (An Episode of Curriculum Development) presents the empirical practice of the curriculum development project by means of documents and materials. These consist of Chapter Ten (Writing the LCA Mathematics Syllabus) and the Appendices given in Volume Two:

Appendix B - The mathematical content of the LCA course as proposed by meetings in Dublin and Limerick of teachers involved in the vocational specialisms, organised under a variety of headings, and distributed over the two years of the programme

Appendix C: - The mathematical content of the LCA course as reorganised by the Development Group at a meeting in Dublin, 25th. January, 1995

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[23] Government of Ireland, *Education for a Changing World - Green Paper on Education.*

Appendix D: - The mathematical content of the LCA course, distributed over two half-year modules and organised by the difficulty of the material, its logical sequence, and the need for variety, at a meeting of the Development Group in Dublin, 26th. January, 1995

Appendix E: - The mathematical content of the LCA course, constructed in response to the Steering Committee's comments, in which the coded mathematical behaviours were regrouped from a sequence of categories determined by logic and degree of difficulty, to form a sequence determined by themes, at a meeting of the Development Group in Dublin, 8th. February, 1995

Appendix F: - The mathematical content of the LCA course, spread over three half-year sessions, by means of three *modules* named *Maths for Everyday Life, Maths for Leisure and Travel*, and *Maths for the Consumer*

Appendix G: -The theme component names of the mathematical content of the LCA course, the assessment guide, and the prior requirements

Appendix H: - Draft Assessment Items

Appendix I: - LCA Mathematics Applications - Draft Modules

Appendix J: - LCA English and Communications - Draft Modules.

A significant disagreement during the development stage of the project provides an opportunity to examine the frames of reference of participants. This then permits a further opportunity to relate objective structures and behaviour (practice and the participants' representation of such practice). The relations between these terms are found to be mediated in complex ways which require explication, and Chapter Eleven (Distinguishing the Frames of Interpretation) and Chapter Twelve (Disagreement) consider these matters through close analysis and cross-reference of the empirical documents presented in the Appendices.

Part Five (Outcomes and Implications) concludes this work. The appraisal of the

explanatory power of Bourdieu's hypothesis is concluded in Chapter Thirteen (Structures and Relations), and the concern of this author as a mathematics teacher to contribute to a rational pedagogy is expressed in Chapter Fourteen (The Language of Mathematics). Bourdieu's insistence on the use of the technical term *homology* to describe a pattern of regularity in the relations between two phenomena is examined, drawing on the mathematical meaning of the term *homology* as used in Projective Geometry - here, the intention is to enlighten, rather than to mystify). The persistence of a pattern of regularity (*invariance under homology*) in the relations between phenomena which exist *at different times*, is considered in two cases, the distinction between Church(es) and State, and the distinction between Male and Female, drawing upon the contexts examined in this work. Finally, as an educationalist in practice, this author is interested in how the outcomes of this research may contribute to the creation of a rational pedagogy capable of implementation within the highly constrained field of teaching in school, and directed towards making available to particular school students access to that scientific mode of constructing reality offered by mathematics. Chapter Fifteen (Conclusions) attempts to draw together the different strands of the thesis by reviewing the four objectives for the work given at its beginning, analysing the outcomes, and making recommendations for the teaching and learning of mathematics.

Appendices A to J, and a Bibliography, given in Volume Two, conclude this work.

PART I - METHOD AND CONTEXT

1 METHODOLOGICAL CONSIDERATIONS

1.1 Overview

This chapter begins by setting out the background to this author's involvement in the episode of curriculum development considered in this work. A key issue is immediately identified: how does one develop a methodology of enquiry into an object of which one's own practice and the practices of other agents are parts, in order to produce knowledge that can claim to be scientific? Drawing upon the work and analyses of Geertz and of Bourdieu, a set of procedures are proposed to analyse familiar practices as socially constructed and historically contingent objects. These procedures are recast to address the particular context and participative aspects of the object of enquiry given here, an exercise which gives the present work its shape and structure.

The purpose of subjecting familiar social objects and practices to a scientific analysis by means of a series of readings and procedures is to produce new knowledge, or a confirmation or contradiction of knowledge already obtained by other means. Such outcomes also offer the possibility of evaluating the hypotheses upon which the investigative procedures are based. Intended as a contribution to social science, the present work must address these challenges within the context of the object of enquiry, and consideration of these matters comes at the conclusion of this work.

The study of an episode of curriculum development is a study of an aspect of the school system. Familiar as the school is to us all, it is an extremely important object at every level of analysis from that of the worried parent to that of the professor of sociology. One consequence of making the familiar *strange* is a collision with the *arbitrariness* of things: why this and not something other? As a teacher, this author is interested in identifying grounds for the practice of teaching that are not arbitrary, to consider the implications of this study for the teaching and learning of mathematics, and to make recommendations.

1.2 Background

This work arose from the participation by the author in the development of the draft materials for the Mathematical Applications modules of the Leaving Certificate Applied (LCA) programme from 11th July, 1994 to 18th May, 1995, when the development work finished. Throughout this period, this author continued to practice as a post-primary teacher of mathematics. The edited materials were published by the Department of Education (*An Roinn Oideachais*) and the National Council for Curriculum and Assessment (NCCA) in October, 1995.[1]

The development project corresponded with this author's interest, published work, and activity of ten years' duration, concerning the problems students encountered in learning mathematics, and with an involvement in syllabus development in mathematics at Leaving Certificate level: interests and experiences which led to the invitation to participate in the curriculum project.[2] Moreover, the opportunity to participate in a curriculum development project was particularly welcome to this author, who, at that time, was investigating topics which might prove suitable as objects of educational research. In addition, the time-scale of the project seemed to offer an opportunity of "studying exhaustively a very precise and well-circumscribed object".[3] In the event, the project was completed, and this author took particular care to keep notes of all meetings and records of all documentation.

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[1] NCCA/An Roinn Oideachais, *Leaving Certificate Applied, Mathematical Applications* (Dublin: NCCA/An Roinn Oideachais, n. d.).

[2] John Evans, "Beyond Progressive Education", *Studies in Education*, II, No 1, Spring 1984; "Low attainment in Mathematics amongst post-primary school children (12 to 18 years)" - A paper on curriculum provision in Ireland for students with low attainment in Mathematics, presented at the European Congress of the Dyslexia Association, (Europäischer Legasthenie-Kongreβ), Aachen, 20-23 September, 1990); "The need for a differentiated curriculum in Mathematics" - A paper presented at the annual conference of the Association of Remedial Teachers of Ireland, 1991; "Notes on solutions to Leaving Certificate specimen questions", *IMTA Newsletter*, 78, 1992; "Suggestions on the teaching of Transformational Geometry", *IMTA Newsletter*, 81 & 82, 1993; "Transition Year Mathematics for Students Proceeding from Foundation Level - Methodology and Problems of Instruction" - A paper presented at the IMTA/Department of Education summer inservice, 1994.; E.E. Oldham and J. Evans, "Handbook and Hands On : A Compensatory Strategy For Algebraic Manipulation In The Calculation Of Areas And Volumes". A paper presented at the Technology in Mathematics Teaching Conference, University of Birmingham, 17-20 September, 1993.

[3] Pierre Bourdieu, "The Practice of Reflexive Sociology (The Paris Workshop)", in Pierre Bourdieu and Loïc J. D. Wacquant, *An Invitation to Reflexive Sociology* (Cambridge: Polity Press, 1992), p. 232.

On beginning the present work, it became clear that this author's participative relationship to the experiences and issues detailed below was problematic. Therefore, it is necessary to characterise the perspective from which the evaluative process inherent in this thesis derives. In other words, it is a fundamental dimension of this thesis that the standing of the author as an integral theoretising presence in the proceedings it documents and assesses be clarified. One model of the issue involved here is provided by Clifford Geertz's *The Anthropologist as Author*, which explores the relation of the anthropologist to both the exotic 'there' and the intended audience in the familiar 'here'.[4] Another particularly effective treatment of this issue comes from the work of Pierre Bourdieu, which explores the relation of the sociologist to the familiar 'here', and, in setting out his concept of "participant objectivation", brings to the fore a recognition of the problematic status of the sociology of policy.[5] Still, this author is neither an anthropologist nor a sociologist, but a post-primary teacher who must acquire a methodology, that is, who must come to stand in certain relations to the object of enquiry, *an object of which his own practice and the practices of all other agents are parts*, in order to produce knowledge that can claim to be scientific.[6]

The *authenticity* of participation in practices, seen by some as a source of mystification, can be used to advantage. Bourdieu, addressing social scientists ("we") on the subject of rituals, argues that

> The fact that the anthropologist, as an outside observer, is necessarily relegated to externality is in no way a privilege, especially since nothing prevents the native from occupying such a position in relation to his own traditions, so long as he is able to appropriate the instruments of objectification and (though it is not necessarily a corollary) is willing to accept the cost of the exclusion that objectification presupposes and generates.... In other words, one has to reintegrate into the theory of rituals *the theory of the practical understanding of all the ritual acts and discourses which we ourselves perform.....*[7]

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[4] Clifford Geertz, *Works and Lives - The Anthropologist as Author* (Cambridge, Polity Press, 1988).

[5] P. Bourdieu and L. Wacquant, "The Paris Workshop", in *An Invitation to Reflexive Sociology* (Cambridge: Polity Press, 1996), p. 253.

[6] That is, participating in the protocols, procedures and presuppositions of the social sciences, on whose collective authority it has been deemed possible to speak of such matters as this work addresses.

[7] Pierre Bourdieu, Preface to *The Logic of Practice* (Cambridge: Polity Press, 1990), p. 8. Emphasis added.

A novel feature of this work may be the epistemological enquiry into the means whereby a teacher may acquire the "the instruments of objectification" of his or her own practice, and an assessment of the costs and benefits of the 'conversion' from teacher to teacher/anthropologist/sociologist (educationalist-in-practice?). The model for acquiring "the instruments of objectification" comes from Bourdieu, whose conviction that certain fundamental modes of constructing reality (aesthetic, scientific, etc.) are universal human possibilities, but actualised only in definite conditions unevenly distributed across positions in social space, leads to an ethical or political programme of *working to universalise the conditions of access to universality.*[8] This programme intersects nicely with a dilemma which emerged in the course of the development of the mathematical materials for the LCA project. Such a programme also offers the educationalist-in-practice an opportunity to make a contribution by proposing models of practice and modes of evaluation of that practice through which the programme might be effectively implemented.

The route back to the classroom is a little strange and will bring an exchange of the familiar for the exotic, of which the complicated standing of the ethnographer in relation to his or her material offers an illustrative instance. The two pieces of ethnographic text which follow provide the context for the subsequent discussions of how such texts are worked, the audience for whom they are intended, the problematic of the distance between observer and observed, and the essential problematic of transmitting authenticity. It is intended to demonstrate that relationships which are explicit and/or problematic in the case of the ethnographer, the observed, and the intended audience, tend to become hidden upon the substitution of "sociologist" for "ethnographer". The effects of this transformation are examined in the particular case of the set of relations, the methodology, which pertain in the ethnographic context, and the consequent effect of the transformation to the sociological context upon this methodology, with a view to instituting a methodology of "participant objectivation".

1.3 From Ethnography to Sociology

> In the cool of the early morning, just before sunrise, the bow of the *Southern Cross* headed towards the eastern horizon, on which a tiny dark blue outline was faintly visible. Slowly it grew into a rugged mountain mass, standing up sheer from the ocean; then as we approached within a few miles it revealed around its base a narrow

[8] Pierre Bourdieu, *Practical Reason* (Cambridge: Polity Press, 1998), p. 137.

> ring of low, flat land, thick with vegetation. The sullen grey day with lowering clouds strengthened my grim impression of a solitary peak, wild and stormy, upthrust in a waste of waters.[9]
>
> ...I went to the village; the moonlit night was bright. I felt not too exhausted. In the village I gave Kavakava a bit of tobacco. Then, since there was no dance or assembly, I walked to Oroobo by way of the beach. Marvellous. It was the first time I had seen this vegetation in the moonlight. Too strange and exotic. The exoticism breaks through lightly, through the veil of familiar things. Went into the bush. For a moment I was frightened. Had to compose myself. Tried to look into my own heart. "What is my inner life?"[10]

These pieces of text may be said to be of a scene-setting and/or self-presenting variety. In each of these pieces, the Western reader is presented with locations and people in contexts in which the strange is enfolded with the familiar. Such a reader is not at home here. There is a distance between the reader and the subject matter of the work. Also, in these pieces, an "I" presents itself in the text, immersed in varying degrees of subjectivity, of "really-being-*in*-an-exotic-there", but never "really-being-*of*-an-exotic-there". Thus there is a triple distance or triple relation between the reader and the "exotic there":

> reader to text, text to ethnographer, ethnographer to "exotic there".

In addition, this "I" has also the time and resources to be in such a place, and holds intentions, which may be expressed and may range from the distanced "substituting informed opinion for uniformed opinion" of Evans-Pritchard[11] , to Read's close-up anthropology:

> The field-working anthropologist undergoes a unique experience; no one else knows quite so personally what it is like to live in an entirely alien culture. Missionaries do not know; government officials do not know; traders and explorers do not know. Only the anthropologist wants nothing from the people with whom he lives - nothing that is, but...an understanding of and an appreciation for the texture of their lives.[12]

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[9] Raymond Firth, *We, the Tikopia* (London: 1936), cited by Clifford Geertz, *Works and Lives - The Anthropologist as Author*, p.11.

[10] B. Malinowski, *A Diary in the Strict Sense of the Term*, (New York, 1967), cited in Clifford Geertz, *Works and Lives - The Anthropologist as Author*, p.73.

[11] E. E. Evans-Pritchard, *Social Anthropology* (London: 1957), p. 65, cited in Clifford Geertz, *Works and Lives - The Anthropologist as Author*, pp. 61 - 62.

[12] K.E. Read, *The High Valley* (New York, 1965), p. ix, cited in Clifford Geertz, *Works and Lives - The Anthropologist as Author*, p. 85. Geertz comments: "...one would think he (Read) might have at least admitted that we want publications".

Geertz, struck by the role of *assertion* as an instrument of persuasion in ethnographic works, wishes to examine how such texts are constructed:

> The ability of anthropologists to get us to take what they say seriously has less to do with either a factual look or an air of conceptual elegance than it has with their capacity to convince us that what they say is a result of their having actually penetrated (or, if you prefer, been penetrated by) another form of life, of having, one way or another, truly "been there." And that, persuading us that this offstage miracle has occurred, is where the writing comes in.[13]

For Geertz, these ethnographies tend to look "at least as much like romances as they do like lab reports", and two questions of "signature" and of "discourse" are said to arise: How is the author-function made manifest in the text? And: Just what is it that the author authors?[14]

Firth addresses the signature issue directly:

> The greatest need in the social sciences today is for a more refined methodology, as objective and dispassionate as possible, in which, while the assumptions due to the conditioning and personal interest of the investigator must influence his findings, *that bias shall be consciously faced*, the possibility of other initial assumptions be realised and allowance be made for the implications of each in the course of the analysis.[15]

Further, in attempting a first pass at such a programme, Firth feels obliged to apologise:

> I give this somewhat egoistical recital not because I think that anthropology should be made light reading...but because *some account of the relations of the anthropologist to his people* is relevant to the nature of his results.[16]

An issue which interests Geertz and which is of importance here, is that an account of the exotic immediately establishes an awareness in the reader of the perspective of the ethnographer, even if the relentless assertions about the veracity of it all are accompanied by a mass of empirical detail. As Bourdieu puts it,

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[13] Geertz, *Works and Lives - The Anthropologist as Author*, pp. 4 - 5.

[14] Ibid., p. 8.

[15] Raymond Firth, *We, the Tikopia* (London: 1936), p. 488 cited in Clifford Geertz, *Works and Lives - The Anthropologist as Author*, p.13. Emphasis added.

[16] Ibid., pp. 13 - 14. Emphasis added.

> owing to the difference in cultural traditions and to the resulting estrangement, one cannot live, as in sociology, under the illusion of immediate understanding.[17]

Historically, the issue of the reader's awareness has been addressed in a variety of ways that Geertz wishes to present under the rubric of worked texts ("fictions"), in order to explain the crisis of confidence in contemporary anthropology resulting from "the pervasive questioning of standard modes of text construction - and standard modes of reading", which "not only leaves easy realism less easy; it leaves it less persuasive".[18] Moreover, a post-colonial consciousness increasingly finds not the "other" to be of interest, but the act of cultural description itself.[19] Today, writes Geertz,

> Neither presumption of interest nor benefit of doubt is automatically accorded; indeed, save for correlation coefficients and significance tests, they are not accorded at all.[20]

Geertz's conviction is that the enterprise of anthropology ("enlarging the sense of how life can go") is worthwhile. This conviction is established at the cost of the claim to realism, through the ambiguous admission that "like quantum mechanics or the Italian opera, it is a work of the imagination, less extravagant than the first, less methodical than the second"; and in the abandonment of literalism:

> To argue...that the writing of ethnography involves telling stories, making pictures, concocting symbolisms, and deploying tropes is commonly resisted, often fiercely, because of a confusion, endemic in the West since Plato at least, of the imagined with the imaginary, the fictional with the false, making things out with making them up. The strange idea that reality has an idiom in which it prefers to be described, that its very nature demands we talk about it without fuss - a spade is a spade, a rose is a rose - on pain of illusion, trumpery, and self-bewitchment, leads on to the even stranger idea that, if literalism is lost, so is fact.[21]

Thus, Geertz accepts that the very possibility of "unconditioned description" is under question and that the enterprise of ethnography is not so straightforward as it was when

[17] Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology* (Cambridge: Polity Press, 1992), p. 248.

[18] Clifford Geertz, *Works and Lives - The Anthropologist as Author*, p. 137.

[19] J. Clifford, "DATA DATA," *Sulfur* 16 (1987): 162 - 64, cited in Clifford Geertz, *Works and Lives - The Anthropologist as Author*, p. 133.

[20] Clifford Geertz, *Works and Lives - The Anthropologist as Author*, p. 139.

[21] Ibid., p. 140.

"hierarchy was in place and language weightless":

> The moral asymmetries across which ethnography works make any attempt to portray it as anything more than *the representation of one sort of life in the categories of another* impossible to defend. That may be enough. I, myself, think that it is. But it spells the end of certain pretensions.[22]

In his analysis of Evans-Pritchard's "way with discourse in a text", Geertz finds such a representation of one sort of life in the categories of another put to interesting use.[23] The desired effect, that of a "lecture with lantern slides", inducing an "easy certitude of perception", is ultimately found to depend on an "elaborate text-building strategy" the efficacy of which rests upon

> the existence of a very strictly drawn and very carefully observed narrative contract between writer and reader. The presumptions that connect the author and his audience, presumptions that are social, cultural, and literary at once, are so strong and so pervasive, *so deeply institutionalised*, that very small signals can carry very big messages.[24]

Evans-Pritchard's method is claimed by Geertz to be humanistic and universal in intention, yet at the same time self-justifying:

> It seeks the disenstrangement of apparently bizarre - irrational, anarchic, heathenish - ideas, feelings, practices, values, and so on, not by setting fanciful cultural representations of them out in formal universal orderings but by talking about them in the same equanimous "of course" tone in which one talks, if one is who one is, about one's own values, practices, feelings and the like. Powerful for "including out", it is, in its tone and in the assumptions and judgments it projects, equally powerful for including in, and indeed for doing both at the same time...Depicting them (the Nuer) as not other but otherwise...causes them to appear to differ from ourselves only in things that do not matter...[25]

The anthropologist Ernest Gellner, alert as ever to the pains consequent on the use of rationality, identifies Evans-Pritchard's central concern:

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[22] Ibid., p. 144. Emphasis added.

[23] E.E. Evans-Pritchard, "Operations on the Akobo and Gila Rivers, 1940-41," *The Army Quarterly*, 103, no. 4 (July 1973): 1 - 10, cited in Clifford Geertz, *Works and Lives - The Anthropologist as Author*, p. 50.

[24] Clifford Geertz, *Works and Lives - The Anthropologist as Author*, p. 58. Emphasis added.

[25] Ibid., pp. 69 - 70. Geertz refers here to E.E. Evans-Pritchard, *Nuer Religion* (New York, 1956).

> How what we take to be the foundations of genuinely human life manages to exist without the assistance of our institutions.[26]

These institutions are given as: "the maintenance of cognitive order in the absence of science, the maintenance of political order in the absence of the state", to which Geertz adds, "the maintenance of spiritual order in the absence of a church".[27]

This mode of discourse is effective only if the reader wishes to consider himself or herself to be part of the intended audience, to be, in Bourdieu's formulation, a legitimate addressee, a state bought at the cost of at least partial acquiescence.[28] Geertz identifies this mode of discourse as part of a "theatre of language" of enormous power.[29]

A change of discipline, from anthropology to sociology, from "exotic there" to "here" alters the relations between the reader and the "exotic there" from the set:

> reader to text, text to ethnographer, ethnographer to "exotic there"

to the set:

> reader to text, text to sociologist, sociologist to "here".

There is a reasonable expectation that the reader has a subjective perspective on "here", in addition to the objective or scientific perspective provided by the sociologist as author. This might be contrasted with the predicament of the ethnographer as author, who must both address the absence in the reader of subjective experiences of the "exotic there", as well as provide an objective or scientific analysis of it. Hence the need for *assertion* identified by Geertz, and attended to through the variety of text-building strategies he examines. Moreover, also apparently altered in transition is the ethnographic "I", having the time and

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[26] E. Gellner, "Introduction," in E.E. Evans-Pritchard, *A History of Anthropological Thought* (New York, 1981), pp. xiv - xv, cited in Clifford Geertz, *Works and Lives - The Anthropologist as Author*, p. 69.

[27] Clifford Geertz, *Works and Lives - The Anthropologist as Author*, p. 69.

[28] P. Bourdieu and J-C Passeron, *Reproduction in Education, Society and Culture* (London: Sage,1996), p. 51.

[29] Clifford Geertz, *Works and Lives - The Anthropologist as Author*, p. 59.

resources to be in such exotic places, and holding intentions placed somewhere between the poles of communicating subjective and objective experience: this "I" disappears. This event, for Bourdieu, is characteristic of sociology:

> The distance the anthropologist puts between himself and his object - institutionalised in the division between anthropology and sociology - is also what enables him to stand outside the game, along with everything he really shares with the logic of his object.[30]

Making the familiar exotic, as Bourdieu puts it, requires not only that the sociologist's relation to the object of enquiry is made explicit, but that the apparent *familiarity* of the object of enquiry is not permitted to mask the fact that the object has been socially constructed.

> *The preconstructed is everywhere.* The sociologist is thus saddled with the task of knowing an object - the social world - of which he is the product, in a way such that problems that he raises about it and the concepts he uses have every chance of being the product of the object itself.[31]

Bourdieu sees such "staples" of the sociology of social problems as "family, divorce, delinquency, drugs, and female labor force participation" as being socially produced, in and by a collective work of construction of social reality.[32] Private, particular, singular problems become *social* problems, public issues that can be publicly addressed; or *official* problems that become the object of official decisions and policies, of laws and decrees.[33] One of the most "powerful instruments of rupture" with the preconstructed and familiar attributes of the objects of enquiry is thus to "retrace the history of the emergence of these problems, of their progressive constitution...as *legitimate* problems, problems that are avowable, publishable, public, official".[34] In consequence, as the Leaving Certificate Applied programme sits within the problematic context of *universal public provision of vocational and general education in Ireland*, this work will examine the historical

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[30] P. Bourdieu, Preface, *The Logic of Practice* (Oxford: Polity Press, 1990), p. 17.

[31] Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 235.

[32] Ibid., p. 239.

[33] Ibid.

[34] Ibid., p. 238.

emergence of such *universal* provision as an official issue.

The issue of the relations between the sociologist and the object of enquiry is a particularly important one when participation in the activity of the object of enquiry is involved. Associated with such participation is the interpretative perspective in sociology, and, sited within this, the 'symbolic interactionist' and 'ethnomethodologist' approaches, emphasising how individuals interpret and define their own situations and roles, on one hand, and the methods whereby social actors produce meaning, on the other.[35] These perspectives have been criticised for not paying enough attention to "structural constraints on behaviour" and, by Bourdieu, for being blind to "objective structures, to relations of force that are not immediately perceivable".[36] As vocational education and its relation to industrial and economic development form part of the object of enquiry of this work, it would appear that a structuralist perspective in sociology, characterising social relations in terms of consensus or conflict, would also be required. Such an alternation between subjective and objective approaches is not uncommon:

> It must be remembered, however, that the definition of scientific method has continued to change even in the natural sciences, and the gap between objective and subjective approaches is not as clear cut nowadays as it once seemed. Instead, the assumptions, perspectives and instruments used by natural scientists are now seen to have a direct influence on how they analyse the natural world. Social scientists are not alone, therefore, in struggling with the problem of subjectivity and objectivity.[37]

The approach of Drudy and Lynch draws upon a variety of currents within structuralism (functionalism and Marxism), neo-Weberian approaches, symbolic interactionism, and feminist theory, but it is concluded that

> the social theories which have the greatest explanatory value are those that emphasise the stratified nature of society (be that by class, gender, race, or disability) and that draw attention to the goals and actions of power groups in the analysis of educational

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[35] G. H. Mead, *On Social Psychology: Selected Papers*, ed. A. Strauss (Chicago: University of Chicago Press, 1964), and E. Goffman, *Asylums: Essays on the Social Situation of Mental Patients and Other Inmates* (Chicago: Aldine, 1962) are representative of symbolic interactionism; A. Cicourel, *Method and Measurement in Sociology* (New York: Free Press, 1964), and H. Garfinkel, *Studies in Ethnomethodology* (New York: Prentice Hall, 1967). are representative of ethnomethodologism.

[36] Sheelagh Drudy and Kathleen Lynch, *Schools and Society in Ireland* (Dublin: Gill & Macmillan, 1993), p. 40; Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 113.

[37] P. Clancey et al., *Ireland: A Sociological Profile* (Dublin: IPA,1986), p. 10.

change.[38]

Still, these authors are

> acutely aware of the need to link such analysis with the study of micro-processes within the school and the classroom...[39]

The educational system, the school, and the classroom may, within the terms of this level of discussion, be considered as particular examples of smaller social systems which are under examination, and the particularities of the educational system *per se* are considered below, in the first part of this work. At this level of generality, then, a key question is the nature of the link between the structure (strata) of society, the goals and actions of the power groups active in the strata, and the micro-processes, the interaction of agents active in the smaller system under investigation. If the link is to be *explanatory*, the behaviour at the micro-level must be related, in some manner, to the power-play at the macro-level. A variety of possibilities present themselves. The agents may be conscious that what they do is related to a larger scheme and act in a utilitarian way to obtain the maximum benefit at the least cost. Such benefits have to be capable of being identified and may be of an economic or psychic nature, and presumably satisfy needs. If agents are unaware of the objective function of what they do, or are mistaken about it, or if the data of consciousness is considered to be beyond analysis or to be unreliable, the examination of micro-processes would constitute a study of determined responses to stimuli, or of pathological delusions, or of random activity rendered meaningless by the small scale of the study, rather than an explanation of behaviours. Thus the logic of the desire to link a structuralist analysis to the activities of agents engaged in micro-processes so as to explain behaviour must implicate notions of consciousness and intentionality. If behaviour consistently produces an effect E, objectively observed, then the agents must consciously will to the effect E, and, further, there must exist a benefit B, economic, psychic, or whatever. The next step will be to relate the effect E and benefit B to the interests and benefits of one or other of the power groups active in one or more strata of society. Presumably this works well enough if such relations can be found, even relations that are inverse in that agents act against their interests, whether individual or group. Difficulty may arise, however, if consistent relations cannot be found

[38] Sheelagh Drudy and Kathleen Lynch, *Schools and Society in Ireland*, p. 44.

[39] Ibid.

for some behaviours, or if the chain of the relations required to find a benefit, or a link to a power group, is of such length in the explanation that the capacity of the explanation to convince tends to zero. In the most radically behaviourist of approaches, such problematic behaviours are seen as statistical noise, the contingent residue of an *a priori* signification, as a hostile Sartre puts it.[40] The investigation ceases to be *an act of explanation* and becomes a *duty* to verify the *a priori* analyses of the situation, to produce "edifying myths".[41]

At the heart of the difficulties under discussion here lie such issues as consciousness, intentionality, and the complexity of human behaviour. The case for the latter is well attested to by the problems of workers in artificial intelligence as they attempt to construct "expert systems", revealing, as Bourdieu argues, that the logic of practice is not the logic of reason.[42] Newman, Griffin, and Cole encountered similar problems in analysing video footage of classroom interactions ("micro-processes") in planned lessons:

> During the planning the teachers could not give us good "But suppose..." objections, and while they were teaching, we were unable to understand the teachers' on-line decisions about what to highlight and what to sacrifice when the unexpected events happened.[43]

One attempt at a reconciliation of structure and behaviour comes in Bourdieu's ambitious proposal of a "genetic structuralism", which is said to be capable of subsuming structuralism, considered as an "objectivist physics of material structures", and interpretative approaches, considered as " a constructive phenomenology of cognitive forms".[44] This is to be understood as part of a larger project, a "unified political economy of practice and of symbolic power", that

> effectively welds phenomenological and structural approaches into an integrated, epistemologically coherent, mode of social enquiry...(which) explicitly encompasses the activities of the analyst who profers theoretical accounts of the practices of

[40] Jean-Paul Sartre, *Search for a Method* (New York: Vintage Books, 1968), p. 126.

[41] Ibid.

[42] P. Bourdieu, Preface, *The Logic of Practice* (Oxford: Polity Press, 1990), p. 82.

[43] Denis Newman, Peg Griffin, and Michael Cole, *The Construction Zone: Working for Cognitive Change in School* (Cambridge: Cambridge University Press, 1989), p. 27. The researchers asked the teachers to explain their behaviour, something of a radical step in certain investigations of this type. There is an interesting discussion of the relations between researchers and teachers at pp. 143 - 147.

[44] Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 5.

others.[45]

This approach is of particular interest because of the nature of the participation described in the course of this work: only a sociologist with a rather odd curriculum vitae could have participated in the work described here, without being "the sociologist who is making a study of our work". This is to say that this author's participation is authentic, but to record that it is still problematic and requires clarification.

In Bourdieu's view, the structures of the social universe can be made manifest in two objective ways: firstly, and with greater weight, by mapping the distribution of material resources and identifying the means of appropriation of socially scarce goods and values, and secondly, by identifying the systems of classification, the *mental and bodily* schemata that function as symbolic templates for the practical activities - conduct, thoughts, feelings, and judgments - of social agents.[46] Any social formation may then be understood as "a system of relations of power" and as "a system of relations of meaning", between groups and classes.[47]

The first reading or mapping treats society as an objective structure, grasped from the outside by observation and measurement, independently of the representations of those who live in it. The aim is to obtain objective regularities which organise the actions of agents.[48] However, this is not sufficient. Bourdieu is deeply skeptical of an enterprise which seeks to set up a "culture" or "social structure", of which the conduct of agents is an expression or an execution.[49] Bourdieu argues that such "higher views" are flawed, because they neglect the functional properties conduct derives from its *use* in a determinate situation and, more

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[45] P. Bourdieu, "Lecture on the Lecture", in *In Other Words: Essays Toward a Reflexive Sociology* (Cambridge: Polity Press, 1990), and P. Bourdieu, *Homo Academicus* (Cambridge: Polity Press, 1990), cited in Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 4.

[46] Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 7.

[47] Ibid. See also Pierre Bourdieu and Jean-Claude Passeron, *Reproduction in Education, Society and Culture*, p. 5.

[48] Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 8.

[49] The particular issue for Bourdieu is a criticism of an unthinking translation of the relationship (explored by Saussure) of language (as a grammar) to speech (what is spoken), over to the relationship of culture (as a sort of grammar of behaviour) to conduct (behaviour). See P. Bourdieu, *Outline of a Theory of Practice* (Cambridge: Cambridge University Press, 1977), pp. 24 - 27.

precisely, in a socially structured interaction.[50] In other words, such objectivism may bring to the light the *objective function or meaning* of cultural behaviours, but by separating the function or meaning from the "objective conditions and practical purposes by reference to which the practice of agents is defined, it becomes impossible to understand *how* these functions are fulfilled".[51] What is required is an enquiry "into the mode of production and functioning of the practical mastery which makes possible both an objectively intelligible practice and also an objectively enchanted experience of that practice".[52]

The second reading or mapping yields a social phenomenology of society, in which society appears as "the emergent product of the decisions, actions, and cognitions of conscious, alert individuals to whom the world is given as immediately familiar and meaningful".[53] Here, too, this reading is flawed: Bourdieu queries how the aggregation of individual strategies and acts of classification can give any kind of persistent character to a society, and enquires as to the origins of the categories agents put to work in constructing their social reality.[54]

What distinguishes Bourdieu's project from Drudy and Lynch's desire to "link" these two sorts of analysis is Bourdieu's hypothesis that

> There exists a correspondence between social structures and mental structures, between the objective divisions of the social world - particularly into dominant and dominated in the various fields - and the principles of vision and division that agents apply to it.[55]

Wacquant sees this hypothesis as a development of the idea expressed by Durkheim and Mauss in 1903:

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[50]P. Bourdieu, *Outline of a Theory of Practice*, p. 25.

[51] Pierre Bourdieu, *The Logic of Practice* (Oxford: Polity Press, 1990), p. 96.

[52] P. Bourdieu, *Outline of a Theory of Practice*, op.cit., p. 25. Bourdieu and Passeron carried out such an enquiry in 1970 in their work *Reproduction in Education, Society and Culture*.

[53] Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 9.

[54] Ibid., p. 10.

[55] P. Bourdieu, *La noblesse d'Etat. Grand corps et Grandes écoles* (Paris: Editions de Minuit, 1989), p. 7. The translation given here is by Loic Wacquant in Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 12.

> cognitive systems operative in primitive societies are derivations of their social system: categories of understanding are collective representations, and the underlying mental schemata are patterned after the social structure of the group.[56]

Bourdieu's development of this idea is said to have four features: the correspondence between cognitive and social structures obtains in modern societies, a correspondence produced in the main by the school system[57]; mental schemata are to be treated as the physical embodiment of social divisions; the correspondence between structures serves a political end, in that it gives an appearance of naturalness and necessity, rather than historical contingency, to social divisions; and that, in consequence of this last, cognitive structures and systems of classification are produced by, and are a stake in, the power relations between classes.[58]

Society is not taken to be a whole, but an ensemble of relatively autonomous fields or spheres of "play" that cannot be collapsed under an overall societal logic.[59] Each field, such as the economic, the political, the aesthetic, the intellectual, the religious field, prescribes its particular values and possesses its own regulative principles.[60] Each field, structured and ordered by its regulative principles, constitutes a delimited socially structured space.[61] Each field is the site of a contest between agents for the authority (the species of capital effective in the field) to change or preserve the structure and extent of the field. A meta-field or field of power stands at a different level to the other fields, and it is here that the hierarchy and conversion-rates between all forms of authority (economic capital, cultural capital, etc.) are established.[62] Bourdieu argues that the correspondence between fields and cognitive structures is expressed in the correspondence between the *relation* of the relative positions

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[56] Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 12. The reference is to E. Durkheim and M. Mauss, *Primitive Classification*, ed. Rodney Needham (Chicago: University of Chicago Press, 1963).

[57] P. Bourdieu, " Systems of Education and Systems of Thought", *Social Science Information* 14 (1967), no. 3: 338 - 58, cited in Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 12.

[58] Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 14.

[59] Ibid., p. 17.

[60] Ibid.

[61] Ibid.

[62] Ibid., pp. 17 - 18.

of groups within a field, and the *relation* between the differing cognitive structures of the groups.[63] These cognitive structures are not forms of pure consciousness but *dispositions of the body* engendered by upbringing and, in modern states, the action of the school system.[64]

> Submission to the established order is the product of the agreement between, on the one hand, the cognitive structures inscribed in bodies by both collective history (phylogenesis) and individual history (ontogenesis) and, on the other, the objective structures of the world to which these cognitive structures are applied. State injunctions owe their obviousness, and thus their potency, to the fact that the state has imposed the very cognitive structures through which it is perceived...[65]

In consequence, this work will explore the application of Bourdieu's hypothesis to the episode of curriculum development given here as an object of enquiry situated within general education and vocational education.

1.4 Participant Objectivation

The issue of participation is now addressed through a discussion of Bourdieu's version of reflexive sociology, whereby the researcher turns the instruments of social science upon himself or herself, thus including "a theory of intellectual practice as an integral component and necessary condition of a critical theory of society".[66]

Wacquant reviews the literature of reflexive sociology and distinguishes Bourdieu's variant by its insistence that the researcher's membership and position in the *intellectual* field are associated with key filters that alter sociological perception.[67] Three types of possible bias are identified: the bias associated with the social origins, class, and ethnicity of the researcher; the bias linked to the position of the researcher in the academic field; and a bias

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[63] Ibid., pp. 15 - 19.

[64] Pierre Bourdieu, *Practical Reason*, pp. 54 - 55.

[65] Ibid., p. 55. Thus, in this view, the recognition of legitimacy is not, as Weber believed, a free act of clear conscience, but "is rooted in the immediate, prereflexive agreement between objective structures and embodied structures, now turned unconscious (such as those that organise temporal rhythms: for instance, the quite arbitrary divisions of school time into periods)", Ibid., p. 56.

[66] Ibid., p. 36.

[67] Ibid., pp. 38 - 39.

described as the "intellectualist bias".[68] The first of these biases is quite obvious and one that is said to be readily controlled by "mutual and self-criticism".[69] The second bias is predicated upon the claim that sociologists,

> like any other cultural producers, always owe something to their situation in a field where all define themselves in part in relational terms, by their difference and distance from certain others with whom they compete.[70]

The third bias consists of a particular view of the world as a *spectacle*, and occurs with the failure to subject to systematic critique

> the presuppositions inscribed in the fact of thinking the world, of retiring from the world and from action in the world in order to think that action.[71]

A correction is achieved by "subjecting the *position* of the observer to the same critical analysis as that of the constructed object at hand".[72]

Bourdieu's attention to the third, or intellectualist, bias provides the foundation of *participant objectivation*, and arose in the writing of *Homo Academicus*, an "empirical sociology of the academic institution".[73] Bourdieu experienced a feeling of having committed

> a kind of disloyalty by setting myself up as observer of a game I was still playing. I thus experienced in a particularly acute manner what was implicated in the claim to adopt a stance of the impartial observer, at once ubiquitous and invisible because dissimulated behind the absolute impersonality of research procedures, and thus

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[68] Ibid., p. 39.

[69] Ibid.

[70] Ibid.

[71] P. Bourdieu, "The Scholastic Point of View", *Cultural Anthropology* 5 (1990), no. 4 (November), 382, cited in Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p.39.

[72] H. Barnard, "Bourdieu and Ethnography: Reflexivity, Politics and Praxis", in *An Introduction to the Work of Pierre Bourdieu: The Practice of Theory*, ed. R. Harker et al. (London: Macmillan, 1990), p. 75, cited in Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 41.

[73] Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 62, and pp. 253 - 260.

capable of taking up a quasi-divine viewpoint on colleagues who are also competitors.[74]

The writing of *Homo Academicus* is said to be the "culmination...of a very self-conscious 'epistemological experiment'...started in the early sixties", when Bourdieu carried out an investigation of marriage practices in his own village in southwestern France.[75]

> The idea behind this research was to overturn the natural relation of the observer to his universe of study, to make the mundane exotic and the exotic mundane, in order to render explicit what in both cases is taken for granted, and to offer a practical vindication of the possibility of a full sociological objectivation of the object *and* of the subject's relation to the object - what I call *participant objectivation.*
>
> But I ended up putting myself in an impossible situation. Indeed, it turned out particularly difficult, if not impossible, to objectivize fully without objectivizing the interests that I could have in objectivizing others, without summoning myself to resist the temptation that is no doubt inherent in the posture of the sociologist, that of taking up the absolute point of view upon the object of study - here to assume a sort of intellectual power over the intellectual world. So in order to bring this study to a successful issue and to publish it, I had to discover the deep truth of the world, namely, that everybody in it struggles to do what the sociologist is tempted to do.[76]

Participant objectivation is not participant observation:

> Objectivation has a chance to succeed only when it involves the objectivation of the point of view from which it proceeds. In short, only the ordinary alternatives of 'participant observation,' this necessarily mystified immersion, and the objectivism of the absolute gaze prevent us from grasping the possibility and the necessity of *participant objectivation*...The most critical sociology is that which presupposes and implies the most radical self-criticism, and the objectivation of him or her who objectivizes is both a precondition for, and a product of, a full objectivation: the sociologist has a chance to succeed in his work of objectivation only if, observer observed, he submits to objectivation, not only everything he is, his own social conditions of production and thereby the 'limits of his mind,' but also his very work of objectivation, the hidden interests that are invested in it and the profits that it promises.[77]

This form of reflexivity is fundamentally anti-narcissistic:

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[74] Ibid., p. 254.

[75] Ibid., p. 67. The investigation is published in English: P. Bourdieu, "Marriage Strategies as Strategies of Social Reproduction", in *Family and Society: Selections from the Annales*, ed. R. Foster and O. Ranum (Baltimore: The Johns Hopkins University Press, 1977), pp. 117 - 44.

[76] Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, pp. 67 - 68.

[77] P.Bourdieu, "Sur l'objectivation participante. Rèponses à quelques objections", *Actes de la recherche en sciences sociales* 20/21 (1978): 67 - 69, trans. L. Wacquant, in Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, n. 9, p. 68.

> Psychoanalytic reflexivity is better tolerated and received because, if the mechanisms it makes us discover are universal, they are also tied to a unique history: the relation to the father is always a relation to a singular father in a singular history. What makes for the absence of charm, the painfulness even, of genuine sociological reflexivity is that it makes us discover things that are *generic*, things that are shared, banal, commonplace.[78]

In consequence of the foregoing, this work will contain an objective view of the interests and benefits which may attach to a teacher who takes part in a curriculum development project and writes a scholarly work about that practice.

1.5 The Project

In summary, the method of this work is to reconcile the subjective knowledge of practice (practical knowledge) with the objective knowledge revealed by research (scholarly knowledge) through a study of the type described by Bourdieu as *participant objectivation.*[79] The aim is to acquire a perspective that is claimed to be *scientific*:

> Taken from an angle which is neither the partial and partisan viewpoint of agents engaged in the game, nor the absolute viewpoint of a divine spectator, the scientific vision represents the most systematic totalization which can be accomplished, in a given state of the instruments of knowledge, at the cost of as complete as possible an objectification both of the historical moment and of the work of totalization.[80]

Within the terms of this work, this is taken to mean that the analysis of the social, cultural, and educational institutions, agents and practices given here should be both objective and historical in character; that there should be an objective view of the interests and benefits which may attach to a teacher who takes part in a curriculum development project and writes a scholarly work about that practice; that there is a commitment to present the empirical practice of the curriculum development project by means of documents and materials ; and that such practice, and agents' representations of such practice, are not necessarily directly determined by objective structures, but that the relations between these terms are mediated in complex ways which require explication.

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[78] Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 72.

[79] Pierre Bourdieu, *Homo Academicus* (Oxford: Polity Press, 1988), p. 1; Pierre Bourdieu and Loic J. D. Wacquant, *An Invitation to Reflexive Sociology*, pp. 67 - 68.

[80] Bourdieu, *Homo Academicus*, pp. 31 - 32.

The documents and materials of the curriculum development project are given in the appendices to this work, contained in Volume 2:

Appendix B - The mathematical content of the LCA course as proposed by meetings in Dublin and Limerick of teachers involved in the vocational specialisms, organised under a variety of headings, and distributed over the two years of the programme

Appendix C: - The mathematical content of the LCA course as reorganised by the Development Group at a meeting in Dublin, 25th. January, 1995

Appendix D: - The mathematical content of the LCA course, distributed over two half-year modules and organised by the difficulty of the material, its logical sequence, and the need for variety, at a meeting of the Development Group in Dublin, 26th. January, 1995

Appendix E: - The mathematical content of the LCA course, constructed in response to the Steering Committee's comments, in which the coded mathematical behaviours were regrouped from a sequence of categories determined by logic and degree of difficulty, to form a sequence determined by themes, at a meeting of the Development Group in Dublin, 8th. February, 1995

Appendix F: - The mathematical content of the LCA course, spread over three half-year sessions, by means of three *modules* named *Maths for Everyday Life, Maths for Leisure and Travel*, and *Maths for the Consumer*

Appendix G: -The theme component names of the mathematical content of the LCA course, the assessment guide, and the prior requirement

Appendix H: - Draft Assessment Items

Appendix I: - LCA Mathematics Applications - Draft Modules

Appendix J: - LCA English and Communications - Draft Modules.

As an educationalist in practice, this author is *interested* in the implications of this study for the teaching and learning of mathematics, and in making recommendations.

2 SCHOOLS, TEACHERS, TEACHING

2.1 Introduction

This section of this work offers a characterisation of those teachers who, in the course of their practice, address the results of the policy of mass participation in post-primary education via specially developed programmes, and of those students who follow such programmes. The work of Bourdieu and of Lynch provides a context within which this characterisation is situated. The technical orientation in education is examined through Lynch's research in Irish schools, which reveals the special status of mathematics. The work of remedial teachers is considered, especially their involvement in the development of special programmes and in the teaching of mathematics, and their methodology is assessed against Bourdieu's notion of a rational pedagogy. Curriculum developments in mathematics in a period of mass participation are reviewed.

2.2 Drudy and Lynch

Teachers, as a group, appear to be difficult to classify. Drudy's and Lynch's analysis of the literature finds teachers grouped with top civil servants and also classified as workers.[1] Analysis of data and research in Ireland on full-time post-primary teachers leads to the conclusion that, in overall terms, a slight majority are women, with a slight male majority within the community-comprehensive sector, ascribed to "the gender-based nature of teaching in the practical subjects".[2] Teachers in Ireland come from middle-class and farming backgrounds, in contrast to a more diverse pattern of social origin in other European countries.[3] Citing the work of O'Sullivan, Drudy and Lynch see the relatively homogeneous social background of Irish teachers as possibly aggravating "cultural differences between teachers and disadvantaged working-class children".[4]

> ...some teachers have a 'deficit model' in their perceptions of working-class

[1] S. Drudy and K. Lynch, *Schools and Society in Ireland*, p. 91.

[2] Ibid., p. 93.

[3] Ibid., p. 94.

[4] D. O'Sullivan, "Teachers' views on the effects of home", *Educational Research*, 22, 2, 138 - 24, cited in S. Drudy and K. Lynch, *Schools and Society in Ireland*, p. 95.

> children. That is, the working-class child's background is perceived as lacking in 'educational' or 'formative' character. There was evidence also of a 'pathological' model of working-class children: there were more frequent perceptions of them (compared with middle-class children) as abnormal, morally reprehensible, or the product of social malaise. There were also indications that these pupils were more vigorously socialised to be respectful, submissive, non-inventive and rule-following than middle-class children.[5]

A number of Irish studies of teachers' perceptions of their roles, of teaching, and of their pupils were reviewed by Drudy and Lynch, suggesting that teachers saw teaching as "a wide-ranging activity", involving a range of diffuse goals such as "the moral, intellectual and social development of their pupils".[6] Teachers in working-class schools were "significantly more likely" to report the use of innovative teaching methods compared with teachers in middle-class schools.[7]

A key issue for Lynch is the discontinuity between a universalistic public provision of education and the particularistic practices through which the Irish middle-classes manipulate the system to their own ends and consume the educational product. Issues in public policy which permit this are said to be the inability or unwillingness of the state to promote the universalistic at the level of school policy (mainly due to private ownership and control, the resistance of teachers, and a compromised body of state managers, trying to maintain the support of the middle classes but at the same time disguise the grosser manifestations of inequity); and the assumption that in "consumption terms, the world consists of equally powerful individual actors".[8]

Teachers are viewed as propertyless workers who have a vested interest in maintaining the superior status of intellectual labour. The public certification of teachers and the subsequent license to teach promotes

> public faith in the neutrality of their position vis-a-vis different kinds of pupils. Their "professional" image helps legitimate the school organisation as an impartial

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[5] Ibid.

[6] S. Kelly, *Teaching in the City: a Study of the Role of the Primary School Teacher* (Dublin: Gill and Macmillan, 1970), cited in S. Drudy and K. Lynch, *Schools and Society in Ireland*, p. 103.

[7] D. O'Sullivan, "Teacher profiles, school organisation, and teaching styles in contrasting socioeconomic contexts", *Irish Journal of Education*, 14, 2, 75-87, cited in S. Drudy and K. Lynch, *Schools and Society in Ireland*, p. 104.

[8] Ibid., p. 127.

distributor of knowledge and expertise.[9]

Teachers, with other mediating forces, are able to identify and recycle the resistance of the students to these inequities into educational products:

> Having access to both classrooms and centres of administration, mediating groups can identify resistances at an early stage and redirect them (by means of pressure on state managers if necessary) into marketable educational products should they think it desirable.[10]

Lynch sees pre-employment courses such as VPT in such terms. Working-class resistances, thus recycled,

> reproduce their class position as the courses are not given the status and credit of the mainstream examinations. By siphoning off resistances into alternative programmes, schools are left free to facilitate the successful consumption of educational services by the bourgeoisie and the middle class.[11]

Drudy and Lynch see this activity in the following terms:

> What is being suggested is that teachers' own class and power interests are bound up with recycling resistance into organisationally non-threatening forms. This is a conscious and deliberate exercise. Secondly, teachers' own credentialised status implicitly legitimates the education system with its semblance of impartiality and 'professionalism'.[12]

The origins of working-class resistances are seen by Lynch as arising from a failure to know the rules of the educational "game". The transmission of privilege to children via the school system is seen as a highly precarious affair, requiring constant monitoring and management:

> Thus, only those who have had prior access to the school system, or access to

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[9] Ibid., p. 130.

[10] Ibid., pp. 136 - 7.

[11] Ibid., p. 138.

[12] S. Drudy and K. Lynch, *Schools and Society in Ireland*, p. 123.

informed sources close to it, can manage it successfully.[13]

Drudy and Lynch go further:

> The working-class environment is said to be in conflict with formal education in a number of ways, including an inability to communicate with the teacher on the teacher's own level and difficulty in dealing with more abstract concepts in mathematics and other subjects (Lawton, 1968, 80-2)...In short, for the working-class child there is a cultural discontinuity between the home and the school, and the ability of the child is depressed (Bernstein and Brandis, 1970, 120).[14]
>
> ...Recent research suggests that such children have verbal skills well in excess of their performance levels in school and on standardised tests, and that the schools themselves are the inhibiting forces. The way forward may be to develop the pedagogical expertise needed to develop the language skills of children from culturally diverse backgrounds.[15]

This is a formulation which appears to steer an uneasy course between damning the school while retreating from the recognition of an autonomous working-class culture.

An important rule of the educational game, for Lynch, is that in school, logical-mathematical and linguistic intelligences are equated with 'ability'. The individual is conceived of as an abstract entity whose essential nature is primarily intellectual in the logical-mathematical and linguistic sense. The "academically uninitiated" are thus defined as lacking in ability and intelligence. Moreover, theories deriving from the distribution of "intelligence" in populations predict the existence of a range of abilities, and, in this context, the existence of low intelligence.[16]

Lynch views the central role of logical-mathematical and linguistic intelligences in schools as the outcome of a value-judgment. The issue is not that such a choice is arbitrary, but that schools

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[13] K. Lynch, *The Hidden Curriculum*, p. 147.

[14] D. Lawton, *Social Class, Language and Education* (London: Routledge and Kegan Paul, 1968), B. Bernstein and W. Brandis, "Social class differences in communication and control", in W. Brandis and D. Henderson, *Social Class, Language and Communication* (London: Routledge and Kegan Paul, 1973), both cited in Drudy and Lynch, *Schools and Society in Ireland*, p. 152.

[15] S. Drudy and K. Lynch, *Schools and Society in Ireland*, p. 154. The research mentioned here is W. Labov, "The logic of non-standard English", in N. Keddie, Ed., *Tinker, Tailor...The Myth of Cultural Deprivation* (Harmondsworth: Penguin, 1973), and W. Labov, *Language in the Inner City: Studies in the Black English Vernacular* (Oxford: Blackwell, 1977).

[16] K. Lynch, *The Hidden Curriculum*, pp. 149 - 50.

> qualify certain limited kinds of academic skills...they demean those intelligences (Gardner 1983) defined as bodily-kinesthetic, spatial and musical, by credentialising only limited aspects of them; and they disqualify and marginalise what I call love labour or solidarity labour...by not credentialising the intelligences associated with it at all.
>
> ...As schools are the major public institutions ratifying and legitimating cultural forms, these attributes or intelligences which it fails to qualify cease having any formal status in the sociocultural agenda.[17]

Drudy and Lynch quote Young's view:

> Formal education is based on the assumption that the thought systems organised in curricula are in some sense superior to the thought systems of those who are to be (or have not been) educated.[18]

One response to this is the approach promoted by Giroux and his associates in the United States:

> They suggest that teachers would have to develop forms of knowledge, and classroom practices, that validate the experiences students bring to school. This would demand acknowledging the language forms, style of presentation, dispositions, forms of reasoning and cultural forms that give meaning to student experiences. Thus the cultural capital of students from subordinate social categories must be related to the curriculum developed or taught, and to the questions raised in class.[19]

This type of approach is "more likely" to be found outside the mainstream system in Ireland, claim Drudy and Lynch.[20]

> Such programmes are open in nature, and informal. They are flexible, they start from people's real positions, and place great emphasis on the social aspects of the programmes. Acquiring 'self-confidence' is seen as just as important as acquiring 'vocational skills' (D. O'Brien, 1987; Faughan, 1987). Working with young people who are extremely alienated from the mainstream system demands skills in the fields of group work, counselling, and developing relevant programmes

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[17] Ibid., pp. 151 - 2, citing H. Gardner, *Frames of Mind: The Theory of Multiple Intelligence*(London: Paladin, 1983).

[18] M. Young, Ed., *Knowledge and Control* (London: Collier Macmillan, 1971), p. 13, cited in S. Drudy and K. Lynch, *Schools and Society in Ireland*, p. 158.

[19] S. Aronowitz and H. Giroux, *Education Under Siege*, p. 156, cited in S. Drudy and K. Lynch, *Schools and Society in Ireland*, p. 158.

[20] S. Drudy and K. Lynch, *Schools and Society in Ireland*, p. 158.

(Faughnan, 1987).[21]

2.3 Bourdieu and Passeron

Bourdieu is deeply skeptical of an enterprise which seeks to set up a "culture" or "social structure", of which the conduct of teachers is an expression or an execution.[22] Bourdieu argues that such "higher views" are flawed, because they neglect the functional properties conduct derives from its *use* in a determinate situation and, more precisely, in a socially structured interaction.[23] In other words, such objectivism may bring to the light the *objective function or meaning* of cultural behaviours, but by separating the function or meaning from the "objective conditions and practical purposes by reference to which the practice of agents is defined, it becomes impossible to understand *how* these functions are fulfilled".[24] What is required is an enquiry "into the mode of production and functioning of the practical mastery which makes possible both an objectively intelligible practice and also an objectively enchanted experience of that practice".[25] Bourdieu and Passeron carried out such an enquiry in 1970 in their work *Reproduction in Education, Society and Culture*.[26]

It should be understood that *Reproduction* offers a model of all pedagogic action, whether organised in a tribe, a family, a church, or a workshop. Those who presume to inculcate a culture in others reveal by their presumption, and the docility of the others, that they possess social power directly or by delegation.[27] The same power is revealed through the exercise of

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[21] M. O'Brien, "Home School Relations in Inner City Dublin", (MA Thesis, Education Department, University College, Dublin, 1987), P. Faughnan, "Evaluation of the Lourdes Youth and Community Services project", in T. Crooks and D. Stokes, Eds., *Disadvantage, Learning and Young People* (Dublin: CDVEC Curriculum Development Unit, Trinity College, 1987), both cited in S. Drudy and K. Lynch, *Schools and Society in Ireland*, p. 158.

[22] The particular issue for Bourdieu is a criticism of an unthinking translation of the relationship (explored by Saussure) of language (as a grammar) to speech (what is spoken), over to the relationship of culture (as a sort of grammar of behaviour) to conduct (behaviour). See P. Bourdieu, *Outline of a Theory of Practice*, pp. 24 - 27.

[23] P. Bourdieu, *Outline of a Theory of Practice*, p. 25.

[24] Pierre Bourdieu, *The Logic of Practice* (Oxford: Polity Press, 1990), p. 96.

[25] P. Bourdieu, *Outline of a Theory of Practice*, p. 25.

[26] Pierre Bourdieu and Jean-Claude Passeron, *Reproduction in Education, Society and Culture* (London: Sage, 1977).

[27] Ibid., p. 6

the authority to determine the content of what is inculcated.[28] The power relations in a social group thus find expression in the relation of inculcators *to* those inculcated *to* those not inculcated, and in the relation of culture to be inculcated *to* culture not to be inculcated.[29] The reproduction of culture in a social group through pedagogic action thus reproduces the power relations of the social group.[30] As such, it is a legitimated substitute, in symbolic form, for naked coercion; pedagogic action is *symbolic violence*.[31] The legitimacy of the power relations between social groups is historically reinforced by pedagogic authority the more pure coercion ceases to be available as an instrument of domination, and the more the cultural value of what is inculcated corresponds to the economic value of what is inculcated, as in the transition from feudalism to bourgeois democracy.[32]

In the foregoing terms, contests between groups for the position of dominant pedagogic authority are the symbolic expression of contests for power.[33] The outcome of those contests will consequently find expression in the character of that which is to be inculcated by the pedagogic authority.[34] In the particular case of education systems, Bourdieu and Passeron argue that if the culture to be transmitted has the character of *eclecticism* and *syncretism*, this represents

> the academic answer to the problems raised by competition for legitimacy in the intellectual or artistic field and competition between the values and ideologies of different fractions of the dominant classes.[35]

Bourdieu's Preface to the 1990 edition of *Reproduction* states that

> *Reproduction* sought to propose a model of the social mediations and processes which tend, behind the backs of the agents engaged in the school system - teachers, students and their parents - and often *against their will*, to ensure the transmission

[28] Ibid., pp. 9 - 10.

[29] Ibid., pp. 10 - 11.

[30] Ibid.

[31] Ibid., p. 36.

[32] Ibid., pp. 13 - 14.

[33] Ibid., p. 19.

[34] Ibid., p. 22.

[35] Ibid., p. 22.

> of cultural capital across generations and to stamp preexisting differences in inherited cultural capital with a meritocratic seal of academic consecration by virtue of the special symbolic potency of the *title* (credential). Functioning in the manner of a huge classificatory machine which inscribes changes within the purview of the structure, the school helps to make and to impose the legitimate exclusions and inclusions which form the basis of the social order.[36]

The characterisation given here of teachers by Bourdieu is at odds with that of Drudy and Lynch, though that of the outcomes of the education system seems similar. For the former, the classificatory machine grinds away behind the teachers' backs and often against their will. For the latter, public policy sets out universalising objectives and analysis reveals the particularising truth. Teachers are shown to participate in the "conscious and deliberate exercise" of promoting their own class and power interests, and those of the bourgeoisie and the middle class, against those of the children of the working class.[37]

Bourdieu's view of human life in the world is such that it is only "viable" and "livable in" because human understanding of it, "practical understanding", is vague and imprecise.[38] This is not claimed to be a new perspective:

> Through a description of 'practical' intellectuals, Plato identifies two of the most important properties of practice, which is described as a 'race for life' (*peri psychès o dromos*): the pressure of temporal urgency ('the ebbing water of the clepsydra hurrying them on...') which makes it impossible to linger over interesting problems, to approach them several times, to go back, and the existence of practical, sometimes life-and-death stakes (*Theaetetus* 172c-173b).[39]

Bourdieu views Plato's intentionally negative description of the "logic of practice" as

> simply the reverse side of an exaltation of *skholé*, a freedom from the constraints and urgencies of practice which is presented as the *sine qua non* of access to truth ('our words are like servants to us')

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[36] Preface to the 1990 Edition, in Pierre Bourdieu and Jean-Claude Passeron, *Reproduction in Education, Society and Culture*, ibid., ix. **eclectic**, *adj.* selecting or borrowing; choosing the best out of everything: broad, the opposite of exclusive. -*n.* one who selects opinions from different systems, esp. in philosophy....; **syncretism**, *n.* reconciliation of, or attempt to reconcile, different systems of belief, esp. of different forms of Christianity by George Calixtus: fusion or blending of religions, as by identification of gods, taking over of observances, or selection of whatever seems best in each: illogical compromise in religion...., *Chambers Twentieth Century Dictionary* (Edinburgh: Chambers, 1977).

[37] S. Drudy and K. Lynch, *Schools and Society in Ireland*, p. 123.

[38] Pierre Bourdieu, *Homo Academicus* (Oxford: Polity Press, 1988), pp. 17 - 18.

[39] Pierre Bourdieu, *The Logic of Practice* (Oxford: Polity Press, 1990), n2, p. 27.

thus offering intellectuals a "theodicy of their own privilege".[40] The reconciliation of scholarly understanding with practical understanding constitutes Bourdieu's scientific project.

Bourdieu begins with the structures constitutive of a particular type of environment (eg. the material conditions of existence characteristic of a class condition), and sees these as producing *habitus*, the "socially constituted system of cognitive and motivating structures", relating the objective "facts" of the world to the group to which one belongs, and hence to the personal.

Bourdieu gives as an example the comparison between the mathematical calculation of probabilities (of say, life expectancy and social class) and the "spontaneous interpretation of statistics" from the personal point of view. The regulatory aspect of *habitus* has such a spontaneous character:

> ...the practical evaluation of the likelihood of the success of a given action in a given situation brings into play a whole body of wisdom, sayings, commonplaces, ethical precepts ("that's not for the like of us") and, at a deeper level, the unconscious principles of the *ethos* which, being the product of a learning process dominated by a determinate type of objective regularity, determines "reasonable" and "unreasonable" conduct for every agent subjected to these regularities.[41]

Can *habitus* be changed? Bourdieu does talk of a *transformation of habitus* as a result of schooling:

> ...the habitus acquired in the family underlies the structures of school experiences (in particular the reception and assimilation of the specifically pedagogic message), and the habitus transformed by schooling, itself diversified, in turn underlies the structuring of all subsequent experiences (eg. the reception and assimilation of the messages of the culture, industry or work experiences), and so on, from restructuring to restructuring.[42]

Schooling (taken in its widest sense as *pedagogic work*) must last long enough to produce a durable training or *habitus*, which can perpetuate itself after schooling has ceased through

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[40] Ibid.

[41] Ibid., p. 76.

[42] Ibid., p. 87.

perpetuating in practices the principles of the culture acquired in school.[43] Education, in the *cultural* order, is taken to be the equivalent of the transmission of genetic capital in the *biological* order.[44] As the habitus of "family life" reproduces the conditions within which the family is reproduced, educational institutions tend to reproduce themselves as unchanged as possible, like traditional societies, thus giving rise to the inertia which attends all educational change.[45]

Three measures of the "specific productivity" of schooling (pedagogic work) are said to be the degrees to which the habitus produced by schooling is durable, transposable, and exhaustive: durable, in that the habitus persists over time; transposable, in that the habitus acquired through schooling finds expression in fields remote from the school: economic conduct or political choices, for example; exhaustive, in the completeness with which habitus reproduces the *principles* of the culture acquired in school in the practices it generates: a *deeply* religious life, for example.[46]

The features required of habitus indicate that a great deal of time and effort must go into its production. The length of time required, the methods of inculcation, and the content of inculcation, are defined as that considered necessary and sufficient to produce the accomplished or cultivated person, against which all are measured.[47] In the contemporary period, these necessary and sufficient conditions translate as the legitimate period of schooling, legitimate teaching methods, and the curriculum.

Insofar as schooling produces a durable, transposable habitus, which is partially or totally shared by the intended recipients, it contributes towards producing and reproducing the intellectual and moral integration of the social group on whose behalf it is carried on.[48]

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[43] Pierre Bourdieu and Jean-Claude Passeron, *Reproduction in Education, Society and Culture*, pp. 31 - 32.

[44] Ibid., p. 32.

[45] Ibid.

[46] Ibid., pp. 33 - 34.

[47] Ibid., p. 34.

[48] Ibid., p. 35. This is Durkheim's formulation of education. See E. Durkheim, *Education and Sociology* (London, 1956), p. 71.

The strength of Bourdieu's position seems to lie in its ability to offer an explanation for the tension or conflict that arises in the education of many students from dominated social groups and the continual crises of confidence that attends these students' endeavours: the conflict between an optimistic pedagogic message and a reality principle acquired and constantly reinforced by the collective personal experience of a family, a group, a class; the "alternation between a sense of cultural unworthiness and aggressive depreciation of the dominant culture".[49]

The character of the classifying education machine is made clear by Bourdieu and Passeron's analysis of its workings. The calm, rather geometrical manner of the presentation of this analysis, with its numbered axioms and deductions, adds to an appreciation of the violence of the system; the relentlessly rational presentation adds greatly to the transmission of *conviction*.[50]

Students from dominated groups enter the education machine lacking the cultural capital to fully assimilate the educational product. The unified market in educational credentials eventually delivers its anonymous verdict on these students at the end of the compulsory period of education. This period of education is long enough to socialise most members of dominated groups by the transmission to them of a set of dispositions which include: accepting the legitimacy of their exclusion from higher educational credentials and, *at the same time*, recognising the superior value of these credentials, which will consecrate their ultimate possessors in law, medicine, technology, entertainment or art; making those it "relegates to second-order teaching recognise the inferiority of this teaching and its audience", inculcating, through "submission to academic disciplines and adherence to cultural hierarchies, a transposable, generalised disposition with regard to social disciplines and hierarchies".[51] Bourdieu and Passeron insist that it is *as if*

> the legitimate duration of (schooling) conceded to the dominated classes was objectively defined as the necessary and sufficient length of time for the fact of exclusion to take on its full symbolic force, i.e. appear to those undergoing it as the sanction on their cultural unworthiness, and for ignorance of the law of legitimate

[49] Ibid, p. 24.

[50] See Clifford Geertz, *Works and Lives: The Anthropologist As Author* (Stanford University Press: Stanford, CA, 1988), pp. 4 - 5.

[51] Pierre Bourdieu and Jean-Claude Passeron, *Reproduction in Education, Society and Culture*, pp. 41 - 42.

culture to be no excuse.[52]

That is, the point of the period of education is to inculcate "the *fait accompli* of the legitimacy of the dominant culture" and not to inculcate the information which constitutes the dominant culture, because schooling is so much less productive and lasts for a shorter period of time when applied to dominated social groups.[53]

> In short,...the major thrust of the imposition of recognition of the dominant culture as legitimate culture and..of the illegitimacy of the cultures of the dominated groups or classes, comes from exclusion, which perhaps has most symbolic force when it assumes the guise of self-exclusion.[54]

Bourdieu considers that

> active resistance by students can, and often does, objectively collude with the reproduction of class and gender hierarchies, as Willis (1977) demonstrates... in his monograph on the "counter-school culture" of working-class "lads" in a British industrial city.[55]

The pedagogic message teachers deliver may be optimistic, but is it totally open-ended? The teachers too have their habitus, their reality principle, that constructs the "of course" and the "naturally" of their discussions about student outcomes and student futures. The judging of a student in such terms is a complicated business, in Bourdieu's view, which includes all the "official" criteria one might expect (tests, behaviour, attitude to authority), but also those other marks of distinction such as taste, accent, posture, gesture.[56] In addition, there is the question of *time* and the resources available to the teacher within which to operate, issues which structure the reality of school in a major way, and that are ultimately the outcomes of political decisions at school level and national level. It is in precisely in this *limit* to open-endedness, the "sense of reality", this limitation of what is

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[52] Ibid.

[53] Ibid.

[54] Ibid.

[55] P. Bourdieu and L. Wacquant, *An Invitation to Reflexive Sociology* (Cambridge: Polity Press, 1992), n. 24, p. 80.

[56] Ibid., p. 87. See also P. Bourdieu, *Distinction*.

constructed as the possible, this limitation of the powers of invention, that Bourdieu sees the action of a pervasive *habitus*, but not a mechanically determining one.[57]

Bourdieu and Passeron classify the pedagogic work of teachers, the "mode of inculcation", on the basis of *intention*.[58] Pedagogic intention is said to lie between two extremes: the intention to bring about a complete substitution of one habitus for another (*conversion* or *metanoia*), and the intention to simply confirm the "primary habitus" already acquired from the family and earliest periods of education (*maintenance* or *reinforcement*); an opposition also expressed in terms of institutions: "total institutions" such as barracks, convents, prisons, asylums, boarding schools at one pole, "schools for ladies" at the other.[59]

Further expressions of this opposition include *explicit* and *implicit* pedagogy, and *rational* and *traditional* pedagogy.[60] The *specific productivity* of school pedagogy is said to be measured by the degree to which the pedagogy

> objectively takes account of the distance between the habitus it aims to inculcate and the habitus produced by previous (pedagogy)....when...it creates more fully the social conditions for communication by methodically organising exercises designed to ensure accelerated assimilation of the code of transmission and, therefore, accelerated inculcation of the habitus.[61]

This is explicit and rational pedagogy. Implicit and traditional pedagogy simply assumes that the audience is already equipped with a habitus adequate to the demands of schooling, an effect Bourdieu and Passeron refer to as the "museum" effect.[62] Explicit pedagogy relies heavily upon "verbalisation and classificatory conceptualisation". Bourdieu and Passeron argue that the more family life and early educational experiences prepare children for such productive and explicit pedagogy the more the material conditions of existence of the

[57] Ibid., p. 95.

[58] Pierre Bourdieu and Jean-Claude Passeron, *Reproduction in Education, Society and Culture*, pp. 44 - 45.

[59] Ibid.

[60] Ibid., pp. 44 - 46.

[61] Ibid., p. 45.

[62] "The museum, which delimits its public and legitimates their social standing simply by the effect of its 'level of transmission', i.e. by the sheer fact of presupposing possession of the cultural code required for decoding the objects displayed...", Ibid., pp. 51 - 52.

children's group or class allow them to

> stand more completely aside from practice, in other words to 'neutralise' in imagination or reflection the vital urgencies which thrust a pragmatic disposition on the dominated classes. All the more so because the agents responsible for (upbringing) have themselves been very unequally prepared for symbolic mastery by (schooling) and are therefore very unequally capable of orienting (upbringing) towards the verbalisation, formulation and conceptualisation of practical mastery which are demanded by (schooling) (e.g. the limiting case of continuity between family..and school...in the families of teachers or intellectuals).[63]

Thus the child who is capable of learning grammar learns to subject to logical scrutiny the principles (e.g. conjugations, declensions, syntactic constructions) which he or she already possesses in their practical state.[64] In acquiring the "theoretic codification of what he does, he acquires the capacity to do it more consciously and systematically".[65]

Explicit and rational pedagogy is thus characterised by both a point of departure - objectively taking account of the distance between the habitus it aims to inculcate and the habitus produced by previous (pedagogy), and an orientation - "ensuring, by explicit inculcation of codified formal principles, the formal transferability of the habitus".[66]

Implicit and traditional pedagogy is characterised by the degree to which the schooling is reduced to the practices which express the habitus and which tend, by the mere fact of being performed repeatedly by agents invested with the authority to teach, to reproduce directly a habitus defined by practical transferability.[67] The school that is *traditional* in this sense, has all the stability and inertia of traditional societies and archetypical apprenticeship learning. The teacher, *by virtue of being appointed as a teacher*, has automatically and by virtue of office all the capacities required to teach. The student who attends such a school does not have an educational past, because by attending the school, the student has automatically and by virtue of office all the capacities required to learn. Such a pedagogy

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[63] Ibid., pp. 48 - 49. The terms "upbringing" and "schooling" have been substituted for Bourdieu and Passeron's usages "primary PW" and "secondary PW".

[64] Ibid., p. 46.

[65] Ibid.

[66] Ibid., p. 48.

[67] Ibid.

> presupposes, produces and inculcates, in and through its exercise, ideologies tending to justify the question-begging which is the condition of its exercise (the ideology of the 'gift' as a negation of the social conditions of the production of cultivated dispositions).[68]

For Bourdieu, the acquisition of learning in traditional societies seems relatively unproblematic. The characteristics of the western model: a specifically autonomous practice, specialised agents, specific moments; are absent in the non-western model, which is characterised by the presence of involvement of the whole group, and a "whole symbolically structured environment" exerting an anonymous, pervasive, pedagogic action, in which practical mastery is transmitted in practice, in its practical state, without attaining the level of discourse.[69] There is, however, for Bourdieu, no return to Eden. It is the very stability of traditional societies, the greater match between agents' dispositions and the "objective structures" of those societies, that give the naturalness and givenness to behaviour. Very little is *arbitrary*. This "quasi-perfect" match permits the great extent of what Bourdieu calls *doxa* - that which is taken for granted.[70]

> The adherence expressed in the doxic relation to the social world is the absolute form of the recognition of legitimacy through misrecognition of arbitrariness, since it is unaware of the very question of legitimacy, which arises from competition for legitimacy, and hence from conflict between groups claiming to possess it.[71]

Modern societies characterised, for Bourdieu, by class conflict, are thus subject to a

> struggle for the imposition of the dominant systems of classification. The dominated classes have an interest in pushing back the limits of *doxa* and exposing the arbitrariness of the taken for granted; the dominant classes have an interest in defending the integrity of *doxa*, or, short of this, of establishing in its place the necessarily imperfect substitute *orthodoxy*.[72]

It is in any variety of confrontation between different cultural traditions (cities, ethnic

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[68] Ibid., p. 52.

[69] P. Bourdieu, *Outline of a Theory of Practice*, p. 87.

[70] Ibid., p. 166.

[71] Ibid., p. 168.

[72] Ibid., p. 169.

diversity) that the exposure of their own arbitrariness becomes possible.[73] This also permits and requires the development of a body of specialists "charged with raising to the level of discourse, so as to rationalise and systematise them, the presuppositions of the traditional world-view, hitherto mastered in their practical state" - a phraseology that might well serve as a definition of a committee engaged in constructing a course of study for schools.[74]

Is all knowledge arbitrary? Are differing forms of knowledge the possessions of groups and classes, some dominant, some dominated? For Bourdieu and Passeron, the "cultural arbitrary" is defined by "the fact that it cannot be deduced from any principle".[75]

> The selection of meanings which objectively defines a group's or a class's arbitrary is arbitrary insofar as the structure and functions of that culture cannot be deduced from any universal principle, whether physical, biological or spiritual, not being linked by any sort of internal relation to the 'nature of things' or any 'human nature'.[76]

If what is taught in schools is a "cultural arbitrary", the question arises of identifying the "institutional and social conditions enabling an institution to declare its pedagogic action explicitly as such, without betraying the objective truth of its practice".[77] For Bourdieu and Passeron, the objective truth of a cultural arbitrary is the sociological function it performs in contributing to the coherence and intelligibility, the "signifying relations", of a group or class's culture.[78] It is precisely this function that is subject to "genesis amnesia", to

> the naive illusion that things have always been as they are...(leading to) the eternizing and thereby the 'naturalising' of signifying relations which are the product of history.[79]

Critics have pointed out that Bourdieu's "use of the concept of habitus in his educational analysis tends to underestimate the role of human agency", and ignores the plain fact that a

[73] Ibid., pp. 168 - 9.

[74] Ibid.

[75] Preface to the French edition, in *Reproduction in Education, Society and Culture*, xx.

[76] Pierre Bourdieu and Jean-Claude Passeron, *Reproduction in Education, Society and Culture*, p.8.

[77] Ibid.

[78] Ibid., pp. 8 - 9.

[79] Ibid.

small but significant portion of working-class children have succeeded within the educational system.[80] Far from ignoring this phenomenon, Bourdieu sees the social promotion of such students, whom he calls *miraculés*, as guaranteeing social stability by giving credibility to the ideology of social mobility.[81] In a period of mass participation in schooling, the cost of social stability becomes increasingly expensive for individual members of dominant social groups, who hold the historically given expectation that the education system will "consecrate automatically the social pretensions of all members of the class".[82] This gives the expectations that middle-class parents have of their children's participation in schooling precisely that nervous character that Lynch identifies as typical of "post-colonial" societies such as Ireland.[83]

The subordination of the education system to the demands of the economy, as desired by those fractions of dominant groups most concerned with the economy, takes on the character of a demand for skills and knowledge which can contribute to economic development, rather than constituting an individual as a cultivated person.[84] These skills and knowledge have to be guaranteed to exist, typically by means of an examination, otherwise the positive effect on economic activity will not be forthcoming, assuming that these skills and knowledge have been rationally and scientifically identified.[85] This can lead to an increase in the demands of schooling upon children, parents, and teachers, and possibly contribute to the painful consequences for individual members of dominant social groups. Bourdieu and Passeron, however, separate the "technical qualification" aspect guaranteed by the examination from the "certification" aspect, thus permitting a partial characterisation of the difference between technical and general education - it is impossible for the cultivated person ever to be called upon to supply technical proof of his or her culture. In consequence, as the education system is permitted to confuse its two roles of producing and attesting capacities, and conserving power and privileges, academic requirements and

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[80] K. Lynch, *The Hidden Curriculum*, pp. 22 - 23.

[81] P. Bourdieu and J-C. Passeron, *Reproduction: In Education, Society and Culture*, p. 161, and nn.34 .

[82] Ibid., n. 44, p. 176.

[83] See below.

[84] Ibid., n. 44, p. 176.

[85] Ibid., pp. 164 - 165.

certificates are passed off as technical prerequisites for the exercise of an occupation. [86] A further characteristic of technical skills and knowledge certified by the examination is the use of theoretic discourse to make explicit the principles of techniques - this permits the distinction between "the holder of the principles (e.g. the engineer) and the mere practitioner (e.g. the technician)" to emerge.[87]

2.4 The Technically Competent Individual

Lynch's examination of the universalising tendencies of the Irish school takes particular notice of what is said to be an increasingly important preoccupation of all types of school - "the development of a technically competent individual".[88] While dating this preoccupation from the mid 1960s and the belief that a shift towards an industrial economy necessitated a more technical orientation in education, Lynch doubts the adequacy of this belief as an explanation for what has occurred.[89] The aim of the new orientation in Irish education is seen as providing a climate in which a new technological elite would flourish, the general nature of the orientation acting as a reassurance to parents and students that a change from the old classical-liberal curriculum was not only safe but relevant and modern.[90] Lynch does not view the objective skill and knowledge needs of Irish industry as requiring the degree of change in orientation which took place, given what is claimed to be the increasing redundancy of technical labour in an increasingly capital intensive economy.[91] The intellectual orientation of education is said to be

> increasingly occurring in the technological and commercial spheres, as it has been central government policy which led to the expansion of the technological sector in the first place.[92]

The universalising tendency towards one sort of knowledge is offset, for Lynch, by the

[86] Ibid.

[87] Ibid., p. 50.

[88] K. Lynch, *The Hidden Curriculum*, p. 37.

[89] Ibid., p. 140.

[90] Ibid., pp. 142 - 143.

[91] Ibid.

[92] Ibid., p. 42.

low status accorded to the *practical* as opposed to the academic technical sphere. This is said to be ultimately explicable in terms of the "relatively low status of incomes accorded to the labour associated with it outside schools", as well as the low status of the practical field of knowledge itself, due to its "irrelevance for attaining higher educational credentials".[93] This latter point is said to explain the absence of practical technical forms of knowledge from many schools, *because such knowledge does not legitimise the school as a universal institution, only academic knowledge is capable of this.*[94]

Turning her attention to the allocation of time to school subjects, Lynch finds further evidence for an orientation towards the academic and the technical. Nineteen percent of the schools surveyed recorded mathematics *as the only subject to be allocated extra time.*[95]

> Mathematics, therefore, is singularly the most likely subject to be allocated extra class periods each week in the junior cycle...Smaller, rural, co-ed and vocational type schools were all more likely to give extra time solely to mathematics...It seems, therefore, that when resources are limited...they are directed towards mathematics rather than other subjects.[96]

Lynch found that the sciences, business, and technological subjects, all of which are said to have a mathematical base, made up 17 (57%) out of the 30 subjects available at Leaving Certificate level. At this level, it was found that the proportion of schools giving more time to mathematics *alone* is 26%, higher than the figure for the junior cycle. Eighty-five percent of the schools surveyed mentioned mathematics as one of the subjects, or the only subject, to get extra time - 72% of the schools made some such extra provision.[97]

Considering the social characteristics of such provision, Lynch found

> a division within the technical knowledge system itself; the practical dimension of theoretical knowledge is emphasised mostly in those schools with a large working-class and small farmer cohort, ie. vocational schools. Mathematics, a more academic technical knowledge form, is emphasised most in the more middle-class secondary

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[93] Ibid., p. 47

[94] Ibid., p. 51.

[95] Ibid., p. 55.

[96] Ibid.

[97] Ibid.

schools.[98]

Lynch appears to mean that "smaller, rural, co-ed and vocational" schools are more likely to give more time to mathematics solely, whereas the middle-class secondary school may give more time to mathematics as well as other subjects, and publicly to value ("emphasise") mathematics as a subject. This may mean that the additional instruction is provided in the first case via an administrative decision by the school management, while the second case represents a consensus between school managers and parents as to what is important. In itself, additional instruction should surely provide an additional benefit to students who already have so many other advantages.

The emphasis on mathematics, and English and Irish, to a lesser extent, is said to be understandable, given the "key role" these subjects play in attaining credentials at second level, as well as generally being prerequisites for gaining access to jobs and third level education.

2.5 Discussion

Bourdieu, criticised by Lynch as offering little space for human agency, appears to offer a theory in which a complex (that is, in some sense adequate) view of agency may operate, while Lynch's view of agency seems utilitarian. For example, in the latter's view, expressed in *The Hidden Curriculum*, teachers are said to derive "psychic rewards" from work with certain students:

> ...it is clear that the character of their rewards system and the means by which status is attained among peers, each encourages them to be particularistic in their classroom practice. Because of the career structure of their occupation, the only variable rewards open to teachers are psychic ones (Lortie, 1975). Consequently, teachers are likely to concentrate efforts on those pupils from whom psychic rewards are most forthcoming. While the feeling of having 'got through' to pupils is likely to be experienced with all pupils at different times, the work of Sharp and Green (1975) and Keddie (1971) would suggest that it is work with pupils who are most receptive to learning, and who share the teacher's values and attitudes, which is most likely to increase the flow of psychic rewards to the teacher at any given time.[99]

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[98] Ibid., p. 57.

[99] K. Lynch, *The Hidden Curriculum*, p. 32, citing D. C. Lortie, *The Schoolteacher: A Sociological Study* (Chicago: University of Chicago Press, 1975), R. Sharp and A. Green, *Education and Social Control* (London: Routledge and Kegan Paul, 1975), and N. Keddie. "Classroom Knowledge", in M. F. D. Young, *Knowledge and Control* (London: Collier MacMillan, 1971).

Taken as it stands, this view may be paraphrased as saying there is a tendency for teachers to do what gives pleasure, and to tend to maximise the rate at which pleasure is derived. This rate is maximised through teaching children who learn quickly and share the teacher's attitudes and values.

Lynch further argues that the activities of a teacher's peers and principal reinforce efforts to maximise "psychic rewards".

> Teachers (especially in second level) must be seen to get results if they are to have professional credibility - the most visible results are the grade levels attained in public examinations. Good grades (and the social recognition which accrues to the teacher from them) are most forthcoming from the 'good pupils' or the upper streams who are more often middle-class than working-class.[100]

Though the most visible may not always be the most important, Lynch's remark does point out an undoubtedly important aspect of the life of a teacher.

It may be accepted that "teachers (especially in second level) must be seen to get results if they are to have professional credibility", but "results" and "professional credibility" can only have the character Lynch goes on to claim for them, within a relationship of *doxa* between the school, teachers, parents, society, and the system of public examinations. Given the increased participation rates of recent times and the obvious mismatch between the interests and abilities of many students and the programmes on offer in school, teachers may have, in these terms, to take their "psychic rewards" where they find them. The provision of alternative programmes (Lynch's recycling of working class resistances) may indeed provide such opportunities to teachers, particularly if student outcomes are certified by public credentials. What does remain largely unquestioned is the status or value assigned to the forms of knowledge these credentials mark, both in the sense of what is selected as forming syllabus content; and the ranking of that knowledge as Higher, Ordinary, Foundation, or LCA, with the consequent valuation of these credentials as "points" or cultural capital, with which subsequent education, training, or employment may be "bought". Moreover, the school as the unique site for the acquisition of knowledge is unquestioned.

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[100] Ibid., p. 32.

In Drudy and Lynch's view, "teachers' own class and power interests are bound up with recycling resistance into organisationally non-threatening forms. This is a conscious and deliberate exercise".[101] In the same work, however, it is said that though the education system has much to do with social control,

> Few people enter teaching or other branches of education with this consciously in mind, however. Indeed, many take up education as a career with quite altruistic motives. In addition, there is a significant movement among educators (among whom we would count ourselves) whose concept of the role of education is emancipatory or liberating.[102]

This appears to mean that teachers are socialised, over time, into promoting their class and power interests within the context of the school. However, a puzzle remains: What "psychic rewards" flow from the emancipatory current in education, and how is a teacher socialised into conformity with its values?

The discussion in this section of this work has taken place over a strange terrain; a no-man's-land somewhere between an unarticulated *doxa* and a contested *orthodoxy*. It is the practice of the teachers that remains *doxic* in its mystery, in its absence of theoretical norms, in its absence of self-consciousness.

2.6 Remedial Teachers

There is a quite specific group of teachers in post-primary schools in Ireland who might make claims to theoretical norms and self-consciousness in their practice. These teachers are remedial teachers, and fail to obtain mention in *The Hidden Curriculum* and *Schools and Society in Ireland*.

The training of remedial teachers is directed by the Psychological Services Section of the Department of Education, and delivered by that section's educational psychologists and by

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[101] S. Drudy and K. Lynch, *Schools and Society in Ireland*, p. 123.

[102] Ibid., pp. 28 - 29.

practising remedial teachers.[103] Teachers who complete the training satisfactorily become registered as remedial teachers with the Department of Education. Remedial teachers do not receive an academic award, nor do they receive a salary increase. Satisfactory completion of the training course depends on attendance at the course, organised by block release from school, inspection of work on site, and the completion of a child study, which takes place over the course of one year.

A change in the terms of an aspect of the remedial teacher's work in post-primary schools in Ireland has occurred since 1987 - the provision of the "syllabus C' or Foundation course in mathematics in the junior cycle, and the subsequent courses developed in the senior cycle. An appreciation of the meaning of this change requires some context.

Connaughton and Mahoney's survey of all post-primary remedial teachers in 1985 asked respondents to identify the main goal of remedial teaching.[104] The responses were:

Table 2.1 Main Goal of Remedial Teaching (% of respondents)

acquisition of life-skills	43%
success in examinations	23%
merely custodial	6%

The *TUI Report on Remedial Education* of 1987 asked remedial teachers in VEC and Community and Comprehensive schools to identify the primary function of remedial education.[105] The responses were:

Table 2.2 Primary Function of Remedial Teaching (% of respondents)

acquiring life-skills	60%
success in examinations	23%
removing students from mainstream work	17%

The incidence of children in post-primary schools in this period requiring remedial teaching

[103] In recent years, the training course has been devolved to regional centres, and is managed by remedial teachers seconded to such positions. The Psychological Services section of the Department of Education are actively involved in the planning and delivery of the courses.

[104] U. Connaughton and M. Mahoney, "Post-Primary Remedial Teaching: A Survey", *Learn* (Summer 1985), p. 5.

[105] *Teachers' Union of Ireland Report on Remedial Education* (Dublin: Teachers' Union of Ireland, 1987), p. 41.

The incidence of children in post-primary schools in this period requiring remedial teaching may be gauged from the following compilation of statistics. CM refers to Connaughton and Mahoney . TUI 82/83 and TUI 86/87 refer to data from the *TUI Report.* Swan 78 refers to data on reading standards in VEC and secondary schools.[106] Hannan 83 draws on data from school principals.[107]

Table 2.3 Percentage of students in need of remedial education (summary)

% of students deemed remedial		VEC	Community	Comp.	Sec.
First Year	TUI 82/83	31	20	5	n/a
	CM 83/84	42	33	10	18
	TUI 86/87	34	24	15	n/a
Whole School Population.	Swan 78	30	n/a	n/a	9
	Hannan 83	28	25	n/a	12

The *TUI Report* asked respondents to indicate, for a given list of subjects, if the remedial programme related to a public examination or whether it was a special course.[108] Both English and mathematics attracted similar responses in that one third of remedial students were following programmes attached to public examinations, while two thirds followed special courses.[109] At that time, the only public examinations available in mathematics to junior cycle students were the Intermediate Certificate examination at Higher or Lower Level, and the Group Certificate examination. Extrapolating from these figures it seems reasonable to assume that, depending on the type of school, anything between 12% to 30% of first year students were not being prepared for a public examination in mathematics.[110]

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[106] D. Swan, *Reading Standards in Irish Schools* (Dublin: Educational Company, 1978), p. 57.

[107] D. Hannan et al., *Schooling and Sex Roles*, ESRI Paper No. 113 (Dublin: ESRI, 1983), p. 91.

[108] *Teachers' Union of Ireland Report on Remedial Education*, p. 37.

[109] Ibid.

[110] During this author's training as a remedial teacher, a visiting speaker (a remedial teacher) indicated that of 10 first year classes in her school, one would attempt the Intermediate Certificate examinations, three the Group Certificate examinations, and the remaining six would follow a programme devised by the teachers in the school.

Given the foregoing figures, it seems unlikely that remedial teachers were the only teachers attempting to teach these children mathematics, though a key determinant must have been the size of the school. In large urban schools with anything from 100 - 200 children entering first year, the number of students for whom a suitable programme of mathematics was not available must have been so large that teachers invented programmes of their own. In smaller schools, the numbers of such children may have been small enough for the responsibility to be left with the remedial teacher - an event which was the cause of much complaint from remedial teachers, and which possibly added fuel to the demand for a "whole school approach".[111]

The advent of new programmes in mathematics, designed to meet the needs of the students who appeared in the statistics as achieving the lowest grades, or who failed to appear at all, was an immediate source of relief to remedial teachers - *the responsibility for instruction in mathematics for (almost) the entire school population reverted to the mathematics teachers*. The role of the remedial teacher changed to acting as an advisor to mathematics teachers as to appropriate methodologies. To this widening of the role of the mathematics teachers was added the experience of developing programmes for PEC and VPT courses, and, eventually, the methodological demands of teaching the Ordinary Alternative and Foundation courses at Leaving Certificate.[112]

It is likely that such teachers would exhibit a variety of "resistances" to the analysis of their work put forward by Lynch and Drudy and Lynch. The problems of a teacher, faced with a student aged twelve years, with a reading age of seven years, and little knowledge of anything to do with number, is unlikely to be resolved by an analysis which points to the teacher's "conscious and deliberate" recycling of this student's "resistance" into "organisationally non-threatening forms", motivated by the teacher's own "class and power interests". Moreover, a characterisation of such a student's attainments as an expression of a culture, and hence, in current terms, a legitimate and acceptable way of being, seems so grotesque, so removed from any notion of an emancipatory tradition, as to be absurd.

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[111] M. King, "Remedial Education - A Critical Viewpoint", *Compass* 6, 1 (1977), L. Staunton, "Changing the Role of the Remedial Teacher", *Learn* (summer 1986).

[112] The teachers who were recommended by their schools to contribute to the preparatory discussion meetings for the mathematics element of the LCA, and the teachers who formed the development group, had experienced these developments as part of their professional formation.

In Bourdieu's terms, however, the provision of remedial teachers might be seen as a measure to address a limiting case - that of children who, whether from organic reasons or from conditions of disadvantage, are unable to participate fully in social life, or in any of the programmes provided in school. It would then be important to disguise the limiting case as a special and separate case, by the application of standardised tests and the *entirely arbitrary* imposition of a measure to the outcome of these tests, to govern the extent of the provision of remedial teachers to schools.

2.7 The Differentiating Effect of Mathematics upon Student Populations

An issue which emerges from the allocation of students to differing courses in mathematics is the ability of this subject to differentiate among students. Dörfler and McLone comment:

> Mathematics is one of many subjects but it nevertheless is in a unique position, because of its highly differentiating effect. There are the talented students and the under-achievers, there is the necessity for remedial teaching, there are minimal competencies and many other features which demonstrate the quite peculiar position of the subject mathematics at school. Mathematics is therefore a tool for selection, possibly to a greater extent than other subjects; a role that is tacitly accepted by many teachers, students and also parents.[113]

The importance of this differentiating effect cannot be understated. Long-standing notions of "general intelligence", which posit its normal distribution in populations, can appear to be verified by this differentiating effect. Bourdieu remarks that

> Often with a psychological brutality which nothing can attenuate, the school institution lays down its final judgments and its verdicts, from which there is no appeal, ranking all students in a unique hierarchy of forms of excellence, nowadays dominated by a single discipline, mathematics. Those who are excluded are condemned in the name of a collectively recognised and accepted criterion (and thus one which is psychologically unquestionable and unquestioned), the criterion of intelligence.[114]

A similar trend has been detected in elite schools in the United States:

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[113] W. Dörfler and R. R. McLone, "Mathematics as a School Subject", in *Perspectives on Mathematics Education*, B. Christiansen, A. G. Howson, and M. Otte, Eds., (Dordrecht: Reidel, 1987), p. 71.

[114] Pierre Bourdieu, *Practical Reason* (Cambridge: Polity Press, 1998), p. 28.

> Historically, the classical, humanist tradition of scholarship has been the core of the boarding school curricula. Today, however, science and mathematics are part of the core curricula.[115]

The Assistant Secretary of the Irish Department of Education, writing in 1968, and proposing a maximum period of time of four and one half hours per week to be spent on instruction in any given subject at Leaving Certificate level, was moved to add

> An exception might be made for honours mathematics because this, if statistics are any index, is the toughest course of all and is consequently in the greatest danger of being shunned. Already only a small number of applicants take the honours papers in mathematics; still fewer reach honours standard.[116]

Drudy and Lynch are careful to make the distinction between what they see as the arbitrary refusal to legimate forms of knowledge *other* than the logical-mathematical and the linguistic, and what appears to be Young's belief that the entire process of legitimation of knowledge is arbitrary and designed to serve the interests of the ruling elite. The enthusiastic endorsement of the views of Gardner by Drudy and Lynch is further evidence of such a perspective.[117] In this view, mathematical "intelligence" is but one of a number of "intelligences" which are distributed in populations, and which are each ultimately genetically inherited.[118] The genetic (and ultimately material) basis for such "intelligences" would appear to fit with the reductionist and "objective" character of Drudy and Lynch's approach.

2.8 Teaching Mathematics in School in the Contemporary Period

Howson, Keitel, and Kilpatrick, looking at the international scene in the developed world, see the period from the 1960s as characterised by a conflict between "individual orientation and social needs", a conflict which was to be resolved, archetypically, by the approach of

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[115] Peter W. Cookson and Caroline Hodges Persell, *Preparing for Power: America's Elite Boarding Schools* (New York: Basic Books, 1985), p.47.

[116] S. O'Connor, "Post-Primary Education: Now and in the Future", *Studies* (Autumn 1968), 245.

[117] S. Drudy and K. Lynch, *Schools and Society in Ireland*, pp. 228-243.

[118] Many admirers of Gardner's work do not appear to realise how traditional his view of "intelligence" is, and how reductionist is his view of its origins. See H. Gardner, *Frames of Mind.*

Bruner, with students "learning to learn", and participating in the aims of a curriculum in ways appropriate to each student.[119] The origin of this conflict lies in the mass character of education in the post-war period, and the "social" dimension to the conflict implies a politicisation of the issue. This is the age of awareness of Jackson's "Hidden Curriculum".[120]

Howson, Keitel, and Kilpatrick see the accommodating moves of this period as a shift away from the claims of the discipline of mathematics concerning "extent, selection, and sequencing", and towards teaching method.[121] In their view, this leads to the risk that content becomes the subject of arbitrary decision-making. An intervening step in this shift, was the insertion of learning theories, which sought to specify what the teaching method should be.[122] The resulting "frantic", and ultimately disappointing, period of curriculum development leaves one clear lesson for these authors: the crucial role of the teacher.[123]

> The so-called 'bureaucratic' innovative strategy, like the technological model, ignored the teacher's possible contribution. The new syllabus was introduced without any preparatory in-service training and without any serious attempt to involve teachers in the reform process.[124]

As a result, teachers were to be more involved in curriculum development, though, in the process, they appear to "soon tend to occupy an exceptional position, and will cease to be representative of the force as a whole".[125]

Howson, Keitel, and Kilpatrick observe that curriculum development is an extremely expensive affair, and thus explain a tendency for countries to import whole, or in an eclectic

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[119] G. Howson, C. Keitel, and J. Kilpatrick, *Curriculum Development in Mathematics* (Cambridge: Cambridge University Press, 1986), pp. 240 - 1.

[120] P. W. Jackson, *Life in Classrooms* (New York: Holt, Reinhart and Winston, 1968), cited in G. Howson, C. Keitel, and J. Kilpatrick, *Curriculum Development in Mathematics*, p. 241.

[121] G. Howson, C. Keitel, and J. Kilpatrick, *Curriculum Development in Mathematics*, p. 241.

[122] Ibid., p. 242.

[123] Ibid.

[124] Ibid., p. 244.

[125] Ibid., p. 242.

manner, mathematics curricula developed in other countries, in other circumstances.[126]

Howson, Keitel, and Kilpatrick identify a trend in international practice of addressing the issue of differentiation by providing two- or three-track systems, the latter consisting of three streams, the "academic, technical (vocational) and 'the rest'".[127] Curricular aims appear to have been neglected, especially for 'the rest':

> The general feeling appeared to be that an additional year or two of schooling would *per se* be beneficial: detailed consideration of what should be done in that time was superfluous. The result was that the mathematical curriculum for such schools was rarely thought out from scratch. It either took the form of an expanded course of arithmetic and mensuration, based on what had happened in the elementary school, or a watered-down version of what was done in the grammar or technical schools.[128]

The problem is compounded by what happens when schools offer a choice between "mathematics in a practical setting" and a "theoretical course": it is the "prestigious academic course which exerts the greater drawing power".[129]

A key problem in basic research is identified by Howson, Keitel, and Kilpatrick as ignorance of what happens in the classroom:

> ...if we are honest, we must admit that we know little about what really happens in the learning process of either the individual or of a group in the classroom, or about the processes of interaction in the classroom, and that in many respects the teacher remains an unknown being (especially in so far as how his cognitions influence his actions). For too long such knowledge was regarded as self-evident and was not even questioned.[130]
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> For all those involved in curriculum development it is still a most startling fact that our knowledge of the classroom remains based on haphazard experiences, on personal observation or the impressions of others: beyond that we have little more than speculations and assumptions.[131]

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[126] Ibid., p. 243.

[127] Ibid., p. 252.

[128] Ibid., p. 253.

[129] Ibid., p. 254.

[130] Ibid., p. 255.

[131] Ibid., p. 256.

Another problem is the relationship between what are described as the "concrete demands" of society and the response of the "non-vocational school", which tends to transform these special requirements into generalised and "more or less abstract goals":

> But we cannot teach goals; they once more have to be retranslated into the concrete terms of content and material...What is rarely questioned is whether these two processes of generalisation are in fact compatible...The models of the world which we present to students are often too simplified. When problems are stripped down to their mathematical essentials, they no longer serve as general preparation for life outside the school, but merely become vehicles for exercises within mathematics itself.[132]

Oldham's analyses of developments in mathematics education in Ireland address many of the issues identified at international level by Howson, Keitel, and Kilpatrick.[133]

Curriculum change in mathematics in Ireland not only began in 1964, but established the subject in the forefront of such change in Ireland, a situation which has not always had happy consequences.[134] It is not entirely clear why Ireland reformed so early, as the social and political pressures to provide mass post-primary education came somewhat later in Ireland than elsewhere. Oldham sees the initiative as "greatly influenced by the 'modern mathematics' movement", with a target population "very different" from that which emerged later, in 1987.[135] A characterisation of what the "modern mathematics" movement might signify is beyond the scope of this work, but a careful reading of *New Thinking in School Mathematics* indicates that at least one major issue for the professional mathematicians who contributed was the need to modernise the university curriculum in mathematics, *and the consequent need to shift the more elementary university material from the university to the school.*[136] The circumstances under which such a radically modernising step, characteristic of the discussions in the most developed and powerful economies, was

[132] Ibid.

[133] E. E. Oldham, "Senior Cycle Mathematics Curricula in the Republic of Ireland: Courses for the 1990s -- Gospels, Epistles and Revelations?"; "Mathematics in the Senior Cycle: The New Leaving Certificate Courses"; "Trends in Mathematics Education: Ireland in International Perspective", *Studies in Education*, 12, no. 2 (Autumn 1996).

[134] E. E. Oldham, "Mathematics in the Senior Cycle: The New Leaving Certificate Courses", p.1.

[135] E. E. Oldham, "Trends in Mathematics Education: Ireland in International Perspective", p. 1, and "Mathematics in the Senior Cycle: The New Leaving Certificate Courses", p.1.

[136] OEEC, *New Thinking in School Mathematics* (Paris: OEEC, May 1961).

introduced *directly* into the Irish education system, deserve further study, as a clear cut case of the modernisation of Irish society. The intervention by the university as an institution was very direct, as Denis Buckley, writing in 1968, indicates:

> The staff of the Mathematics Department of University College, Dublin, were the first, to my knowledge, to suggest changes in the field of mathematics. They gave the first course in this country in modern mathematics in U.C.D. during July 1963. This course was attended for three weeks, five hours a day and six days a week, by over 300 secondary teachers, clerical and lay.[137]

Oldham sees the changes of the 1980s as "adjustments rather than major reforms", and cannot find any "major critique of the reasons for which, or the way in which, mathematics is taught" in Ireland.[138] Because mathematics was adjusted in advance of major change across the entire curriculum, both in the junior cycle and the senior cycle, Oldham sees lost opportunities for serious thought about the role and purpose of mathematics education at these junctures.[139]

Oldham's analysis of the adjustments that took place seems to mirror the shift, detected by Howson *et al* at international level, towards classroom practice. Thus

> ...courses have been found too abstract, or too long, so modifications have been introduced; and these modifications have been such that teachers could incorporate them into their classrooms with minimal change of teaching style.[140]

A major factor in screening content for new courses was "its suitability for the target group of learners, particularly as regards the level of abstraction and conceptualisation required and the relevance or applicability of the material".[141] Teachers, in this analysis, are said to be "understandably cautious" about using new methodologies in the two Foundation courses, which, while appearing to offer opportunities for "different classroom experiences", are still

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[137] Denis Buckley, "Comment 7 - A Secondary Teacher", in *Studies*, Autumn 1968, 297.

[138] E. E. Oldham, "Trends in Mathematics Education: Ireland in International Perspective", p. 1.

[139] Ibid.

[140] Ibid., p. 2.

[141] E. E. Oldham, "Mathematics in the Senior Cycle: The New Leaving Certificate Courses", p.1.

subject to standard public examinations.[142] The "backwash" effect from such examinations is identified as a "major disincentive to change", with Oldham seeing better opportunities for innovative teaching in experimental projects such as the Senior Certificate, and the relatively open nature of the curriculum in Transition Year.[143]

Oldham identifies some interesting features in the provision of mathematics courses in Ireland and the uptake of these courses by students.[144] Making the distinction between specialist courses, appropriate for students proceeding to further study in mathematics, science, engineering, technology or economics; and general courses, appropriate to the needs of students who will not use advanced mathematics in their future careers, Oldham argues that prior to the introduction of the Ordinary Alternative course in 1990, some 60% of the age cohort were following mathematics courses of a specialist type (the Higher and Ordinary courses), a figure matched in the group of countries participating in the SIMS study only by Hungary.[145]

International comparison also reveals that while the number of hours of instruction given to mathematics in Ireland is "rather low", the programmes (Higher and Ordinary) achieved "similar scope and perhaps even depth to those of the majority of participating countries.[146] Oldham concludes that at Higher level, and possibly Ordinary level, "too much, too soon" is being attempted.[147]

Oldham's analysis of the Ordinary Alternative (now named Foundation) course is of particular interest. The mathematical content is judged to be "far from trivial"; the course itself is

> neither merely a maintenance course for social arithmetic nor a washed-out version of the Ordinary course. The serious heed paid to calculators, the recognition given to investigational and constructive learning, and the incorporation of strong visual

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[142] Ibid.

[143] Ibid.

[144] Ibid., p.2.

[145] Ibid., pp. 2 - 3.

[146] Ibid., p. 3.

[147] Ibid.

and artistic elements make it genuinely complementary in scope and style.[148]

Despite these positive features, Oldham identifies a variety of difficulties in the implementation of the course in schools: a dearth of textbooks, the limited recognition granted by the universities, the response of the Regional Technical Colleges.[149] The latter institutions require the Ordinary level course

> not only for their scientific and technological programmes - for which it is eminently appropriate - but also for many other programmes for which its suitability is less clear. This has been an unpleasant surprise; it had been anticipated that, in at least some of these areas, there would have been a welcome for students with a sound grasp and appreciation of the readily applicable mathematics in the Ordinary Alternative syllabus, rather than a rote-learned and unsatisfactory knowledge of abstract topics resulting from an ill-matched encounter with the Ordinary course.[150]

Oldham concludes that

> Perhaps there are lessons to be learnt as regards the limited attractiveness of courses which effectively shut doors to relevant areas of further education. To be viable, such courses need appropriate recognition.[151]

The difficulty here, of course, is that the award of recognition is almost entirely in the hands of those who provide further education. What remains interesting is the degree to which the Foundation course proved problematic for these bodies. The decision by the universities to give the course matriculation status, but not CAO points, reflects this difficulty. The later decision by the Minister of Education to urge the universities to abolish matriculation examinations further eroded what status the Foundation course had attained.

2.9 Conclusion

This chapter considered the objective characterisation of schools, teachers, and teaching, considered within the terms of the relationship between social structure and behaviour. A

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[148] Ibid., p. 7.

[149] Ibid., pp. 7 - 8.

[150] Ibid., p. 8.

[151] Ibid.

series of discussions, focussed on specific aspects of contemporary developments in the education system, then provided opportunities both to examine the relationship between structure and practice in more concrete terms, and to provide information about features of the education system in Ireland and of curriculum developments in mathematics. A preliminary examination of the distinction between technical and general education also introduced a central concern of the present work. The Irish historical context and the manner in which these educational issues emerged from that context as contested issues are now examined.

3 HISTORICAL OVERVIEW OF VOCATIONAL AND GENERAL EDUCATION IN IRELAND

3.1 Introduction

An overview of the history of the relationship between vocational and general education in Ireland in given here in five phases: the period prior to independence in 1921; the period from 1921 to the Vocational Education Act (1930) which includes the report of the Ingram Commission of 1926-27; the period from 1930 to 1948, an era of intense social conservatism; the period from 1948 to 1957 and the impact of post-war reconstruction and Cold War in Europe; and the period beginning in 1957, which includes the publication in 1957 of *Economic Development*, the *Apprenticeship Act* (1959), Dr. Hillery's 1963 statement on comprehensive education, the publication of *Investment in Education* in 1966, the establishment of the community schools, and Ireland's accession to the European Economic Community.[1] The historical overview is followed by a discussion, relating events and trends to the analysis of the education system given at the beginning of Chapter 2 of this work. The purpose of this overview is historicise general and vocational education in the Irish context and to chart the emergence of these issues as official issues.[2]

3.2 The Period Prior to Independence in 1921

Mulcahy claims a "clear recognition" from the beginnings of the *secondary* school that:

> one of the guiding objectives of the second-level curriculum was the preparation of pupils for university education. It was as if the curriculum was shaped by the university ideal of academic education. Thus no important place was given to studies or subjects which did not exist in the university...While metalwork and woodwork were included in the secondary school curriculum in the early years, in

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[1] Commission on Technical Education, *Report*, (Dublin: The Stationery Office, 1928); Department of Education, Technical Instruction Branch, *Memorandum V. 40: organisation of whole-time continuation courses in borough, urban and county areas* (Dublin: Department of Education, n. d. c. 1942); *Economic Development* (Dublin: The Stationery Office, 1958); *Apprenticeship Act, 1959*, No. 39 in public statutes of the Oireachtas; Department of Education, *Investment in Education*, 2 vols., (Dublin: The Stationery Office, 1966).

[2] See Chapter 1 - Methodological Considerations.

time they disappeared.[3]

It should be noted that a minority of secondary students continued to university studies.[4]

Mulcahy sees the origins of this orientation in a European trend towards external public examinations for secondary education throughout the nineteenth century, the *Intermediate Education Act (1878)* and the establishment of such a system of public examinations, and the practice of schools affiliating to London University as an examining board.[5] Casualties of this development included the decline of school autonomy in curriculum matters, and the distinctive character of a school.[6] Benefits included the provision of a recognised certificate of educational achievement for the successful student; the possibility of a university scholarship; the enhancement of employment prospects; the provision to the school of a measure of its standing; and the supply of candidates to the universities and employers.[7]

Coolahan sees the late start of a coordinated system of *technical education* and the "relative lack of concern from church interests" as facilitating a new administrative structure for this type of education in this period.[8] These features were a reflection of the lack of clarity as to what technical education was; what constituted an appropriate methodology; and the low social status accorded to manufacturing, manual or trade work generally. This last attitude is seen to have resulted from the tradition of liberal education (a church tradition also) which "undervalued the worth of manual occupations".[9]

The Department of Agriculture and Technical Instruction was established in 1899 under the

[3] D. G. Mulcahy, *Curriculum and Policy in Irish Post-Primary Education* (Dublin: IPA, 1981), p. 86. He continues: "Not until the changes of the 1960s, and the emphasis on education for economic growth, did this begin to change.

[4] And continued to do so. By 1963, of 10 000 students who continued their studies to the Leaving Certificate, only 2 000 proceeded to university, representing a probability of transfer of 0.2. Data from J. Coolahan, *Irish Education - History and Structure*(Dublin: IPA, 1981), p. 165.

[5] D. G. Mulcahy, *Curriculum and Policy in Irish Post-Primary Education*, p.9.

[6] Ibid.

[7] Ibid., pp. 9 - 10.

[8] J. Coolahan, *Irish Education - History and Structure* , pp. 83.

[9] Ibid., p. 84. However, see the active support for such education by Archbishop W. J. Walsh of Dublin in Patrick F. Donovan, "A study of the influence of Archbishop W. J. Walsh on primary and post-primary education in Ireland, 1890-1901", MEd thesis, University College, Dublin, 1979, cited in Coolahan, *Irish Education - History and Structure*, p.88.

Agriculture and Technical Instruction Act (1899), and its programmes of instruction were funded in an innovative way, for Ireland, through local rating and central government grant.[10] The Act defined technical instruction as

> instruction in the principles of science and art applicable to industries and in the application of special branches of science and art to specific industries or employment.

It did not include "teaching the practice of any trade or industry." [11]

Problems of inadequate buildings, poor finances, untrained teachers, and poor attendance dogged the scheme.[12] From 1906, extended capitation and attendance grants were paid which improved attendance and the number of students completing courses.[13] Few students attended full-time courses, the bulk attending at evening classes two or three evenings per week.[14] Additional provision was made for day trade preparatory schools, which were seen as "a bridge between national school and employment, offering part general and part industrial education. They did not offer religion on the programme." [15] Only fourteen such schools existed by 1919.[16]

3.3 The Period from 1921 to the Vocational Education Act (1930)

The new state was established in 1921. The Dáil Commission on Secondary Education (1921) reviewed existing provision, and a new programme for secondary school came into operation in August of 1924.[17] For a school to be recognised as "secondary", instruction had to be offered in an approved programme of stipulated subjects; in 1924/5, these were

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[10] *The Agriculture and Technical Instruction (Ireland) 1899* (62 and 63 Vict. c. 50), cited in Coolahan, *Irish Education - History and Structure*, p. 83.

[11] Coolahan, *Irish Education - History and Structure*.

[12] Ibid.

[13] Ibid., p. 91.

[14] Ibid., p. 93.

[15] Ibid. p.91.

[16] Ibid.

[17] Ibid., p. 11.

Irish or English; a language other than that offered already; history and geography; mathematics; and science, or Latin and Greek, or commerce.[18]

Two terms are important in the discussion of developments in vocational education: *continuation education* and *technical education.*

Continuation education refers to a proposal from the Ingram Commission of 1926-27, that a system of of practical continuation schools should be established for students between the ages of fourteen and sixteen.[19] The absence of such a system was regarded as one of the key weaknesses of the existing situation.[20] Under the *Vocational Education Act (1930),* the continuation schools were to

> ...continue and supplement education provided in elementary schools and to include general and practical training in preparation for employment in trades etc. and also general and practical training for improvement of young persons in the early stages of employment .[21]

Technical education refers to the education provided in technical schools, which catered for the sixteen-plus age group in following apprenticeships in skilled trades.[22] The Act describes this education as

> ...pertaining to trades, manufactures, commerce and other industrial pursuits and in subjects bearing thereon or relating thereto and includes education in science and art and also includes physical training.[23]

As before, this was mainly conducted through evening courses, though a small number of whole-time schemes and a number of schemes in association with apprenticeship

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[18] Ibid., p. 12.

[19] Commission on Technical Education, *Report* (Dublin: The Stationery Office, 1928), cited in Coolahan, *Irish Education - History and Structure*, pp. 94 - 96.

[20] Ibid., p. 96.

[21] *Vocational Education Act 1930 (No. 29)* in public statutes of the Oireachtas (1930), p. 601.

[22] Coolahan, *Irish Education - History and Structure*, p. 96. The Vocational Education Committees (VECs) were formed for the purposes of the administration of these schools.

[23] *Vocational Education Act* 1930.

arrangements were established.[24] Most of this provision was craft-based.[25] Higher technical education was confined to the county boroughs of Dublin, Cork, Limerick and Waterford.[26]

Continuation education thus "continued and supplemented" primary school education and provided an education *preparatory* to employment. Technical education provided an education *pertaining* to specific employments, with elements of education in science and art not specific to particular employments.

The diagram below is intended to represent the relationship between the various elements of provision for education.

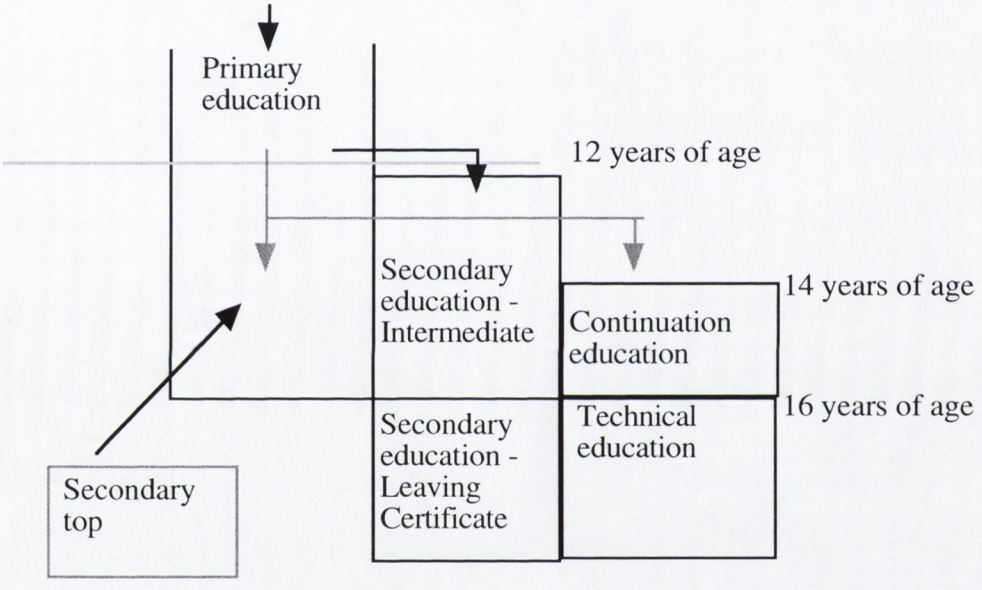

Figure 3.1 Provision of post-primary education c. 1930

The Ingram Commission of 1926 - 27 had "taken note of new state-sponsored industrial enterprises such as the Shannon Electricity Scheme and the Irish Sugar Company and stated that there was a need for a wide development of higher technological work ". Thus many of the provisions of the *Vocational Education Act 1930* had their origins in the Commission's work, though altered, as O Buachalla remarks, to meet the objections of the Departments of

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[24]Coolahan, *Irish Education - History and Structure*, p. 100.

[25] Ibid.

[26] Ibid. Later, in 1935 Dublin VEC called for the establishment of five colleges of specialisation in Technology, Commerce, Trades and Crafts, Domestic Science, and Music.

Finance and Local Government.[27]

The system of funding was expanded:

> Under the new legislation the vocational education committees had the duty to set up schools in each local authority area. Further, a compulsory rate of $1\frac{3}{4}$ d in the pound in country areas and 3 d in the pound in borough and urban council districts was to be levied in aid of technical education. This removed the uncertainty which prevailed under the old year-to-year system, and allowed for more satisfactory planning. Amendments to the Act in later years increased the maximum rate levels to cope with expanding needs. The new regulations led to a striking amount of building activity resulting by 1936 in forty-six new schools, extensions to twenty-one others and the initiation of building programmes for forty-eight other schools.[28]

O Buachalla notes that though vocational education was to be administered by secular authorities, the Roman Catholic Church gave tacit acceptance to the scheme.[29] Whyte sees this as a result of the assurance given to the bishops by the minister for education that vocational schools "...would not be allowed to develop so as to impinge upon the field covered by the denominationally run secondary schools".[30] O Buachalla adds:

> This...meant that vocational schools would not be allowed to teach those subjects nor prepare for those examinations which gave access to university and white collar employment. In practice this meant that the Intermediate and Leaving Certificate examinations were not available to students of vocational schools from 1930 until the middle sixties when the restriction was removed.[31]

Following the passage of the act, the bishops requested a meeting with the minister. The minister subsequently addressed their concerns by written reply in October of 1930.[32] O Buachalla comments:

> It would appear that the bishops were perturbed by the provision of continuation

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[27] O Buachalla, *Education Policy in Twentieth Century Ireland* (Dublin: Wolfhound, 1988), p.382.

[28] Coolahan, *Irish Education,* p. 97.

[29] Ibid., p. 64.

[30] J. H. Whyte, *Church and State in Modern Ireland* (Dublin: 1971), pp. 37 - 38.

[31] O Buachalla, *Education Policy in Twentieth Century Ireland*, p. 382.

[32] The full text is given in O Buachalla, *Education Policy in Twentieth Century Ireland*, pp. 399 - 403.

education in the vocational schools and were questioning the relationship of continuing education to primary and secondary education. In his letter, the minister was adamant that "Vocational, not general education was the subject of the act" and that it is not and never was intended to be, in any degree, a general education act"...By their very nature, the minister continued, the vocational schools are not schools for general education; they will provide "technical education of a general character". The minister reassured the bishops that "general education after the age of 14 years, as well as before the age of 14 years, will continue to be given in primary and secondary schools". Neither did he envisage the vocational schools ever providing general education even in a system of universal post-primary provision.[33]

The minister also found the term "continuation education" to be unfortunate in that it might suggest

> it continues the type of education given in primary schools or continues the atmosphere that prevails in them. I consider that *a distinct break* with that type of education...is essential...On the occasion of the second reading of the bill in the Dáil, I clearly pointed out that it was an essential note of these courses that *the future occupation should be kept continually before the students.*[34]

Some tendencies already existing in vocational education were to be corrected:

> I trust that the type of education in the continuation courses provided by the committees will steadily become more definitely vocational than the similar education which is at present being given in technical schools, and that *where subjects, other than handwork, etc., are taught, they will be taught with a definite reference to employment and as 'practical' subjects.*[35]

The minister pointed out that he had received criticism as a result of the "strictly vocational character" of the education to be provided, from

> those who wished to widen its scope and to make larger provision for *general and cultural* education. This was the attitude specially taken up by the Gaelic League and by some of those interested in the spread of the Irish language. However, I resisted any amendments put forward on these lines precisely because they went beyond the scope of the bill by tending to remove the purely vocational character.[36]

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[33] Ibid., pp. 223- 224.

[34] Ibid., p. 400.

[35] Ibid. Emphasis added.

[36] Ibid. Emphasis added.

There was a positive side to the measure, the minister argued. One of the reasons for young people to "so readily turn their backs on agriculture and industrial pursuits" had been said to be the "too one-sidedly theoretical" character of the general education given in the primary and secondary school.[37] Referring to these young people, the minister continued:

> With more justice it might be urged that for these latter not nearly enough in the way of adequate provision of instruction was being done...For the great bulk of our young people the education at present provided for instance in secondary schools, *is neither available or suitable.*[38]

The minister pointed out that the views of the Roman Catholic Church had been considered:

> I strove to secure, with success, as I believe, that the act should not run counter to established Catholic practice in this country, or to the spirit of the Maynooth decrees governing these matters. This was one of the reasons why I insisted so strongly on the vocational character of the instruction to be provided under the act.[39]

The minister is referring to the decree of the Maynooth synod of 1927 which stated:

> Since it seems to us that knowledge of technical skills and of agriculture is useful and necessary for our people we consider it permissible for Catholic young people to attend schools with non-Catholics where this knowledge, but not general instruction or education is given.[40]

It is not entirely clear whether the distinction being made here is between knowledge that is "useful and necessary" and knowledge that pertains to "general" education, or the distinction between *knowledge* that is "useful and necessary" and the *experience* of "general" education and instruction.

Ó Buachalla notes that the letter of the minister satisfied the bishops that the vocational system fell within the provisions of the Maynooth decree. As has been already noted, the schools could not enter students for the Intermediate and Leaving Certificate examinations.

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[37] Ibid., p. 401. Emphasis added.

[38] Ibid. Emphasis added.

[39] Ibid.

[40] *Acta et Decreta Concilii Plenarii Episcoporum Hiberniae 1927*, 120, 402.1, cited in Ó Buachalla, *Education Policy in Twentieth Century Ireland*, p. 224.

Furthermore

> Where subjects such as History or English were taught in the vocational schools they were frequently officially described as Commercial History or Commercial English.[41]

In short, the minister indicated that secondary education was not suitable for the "great bulk of our young people". Students receiving continuation education would find a "distinct break" in style from the primary school, and that their "future occupations" would be kept continually before them.

The attitude of the Roman Catholic Church to continuation education is a complex affair, related to the protection of what it saw as its rights in relation to secondary education; the reluctance to countenance rivals (especially of a state-supported variety) in the area of public examinations such as those leading to the award of Intermediate and Leaving Certificates; and an apparent lack of interest in making such provision itself, a partial result, perhaps, of a lack of interest on the part of those parents who could pay, in paying for, or desiring such an education.[42] The lengths to which O'Sullivan goes in his letter to the bishops to give assurances that the *character* of the education to be given in the proposed continuation schools will *not be general education* is thus to be seen, not as a concern with the content, *per se*, of the curriculum, but a concern with the need to placate an extremely powerful political force in Irish society which had effective ownership of the only (Roman Catholic) route to valuable educational credentials.[43] It is also based on the belief that general education is suitable for a minority of students only. The message appears to have been this: the continuation schools would not be a free, state system of schools preparing students for the Intermediate and Leaving Certificate examinations; if a universal system emerged in time, the continuation schools would not be part of that system.[44]

[41] Ibid.

[42] Mulcahy records the case of "one teaching order which had been offering courses with a commercial and industrial orientation in a number of its schools found it necessary to change to a more academic type of course since that alone was found to pay its way", D. G. Mulcahy, *Curriculum and Policy in Irish Post-Primary Education*, p.10. Mulcahy is commenting on the period from the *Intermediate Education Act 1878* to the year 1900.

[43] An account of the official attitudes to the Church of Ireland and the other Protestant Churches is given in O Buachalla, *Education Policy in Twentieth Century Ireland*, pp. 237 - 249. They were effectively ignored or marginalised in this period.

[44] In time, they were.

The Maynooth decree had indicated that it was permissible for Roman Catholic young people to attend schools with "*non-Catholics*" when a *knowledge (of technical skills and of agriculture)*, but not *general instruction or education* was given. The sense of this appears to be that it was not permissible for a Roman Catholic young person to receive *general* education in the presence of "non-Catholics". This can be interpreted as a statement that the Church would tolerate no rival to its own secondary school in the provision of general education to the elite of Roman Catholic youth. Another, but not contradictory, interpretation is that different and possibly differing points of view were not welcome in the general education of Roman Catholics: hence the restrictions on the character of the curriculum in the vocational school. John Stuart Mill had remarked in 1848 that the hopes of the "higher classes" that moral and religious education may counteract the resistance of "working men" to the "patriarchal or paternal system of government" may be dashed.[45] Did the fears of such an evolution inform the Church's judgment? Certainly, some of the broader trends mentioned by Mill were addressed by the *Censorship of Publications Act 1929*.[46]

The content of the *secondary* curriculum does not seem to have been an issue of concern to the Roman Catholic Church in this period, possibly because its role in the management, ownership and staffing of its secondary schools was entirely secure.

3.4 The Period from 1930 to 1948

There seems to be an infernal circularity about the term general education. It would appear to take place in the primary school in an elementary way, and in the secondary school; so much so in the latter, that the purpose of the secondary school is said to be the provision of general education.[47] Mulcahy sees the curriculum of the secondary school in this period as one in which the literary and the academic subjects occupied a central role

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[45] J. S. Mill, *Principles of Political Economy* (1848), cited in J. M. Golby, ed., *Culture and Society in Britain 1850 - 1890*, (Oxford: Oxford University Press,1986), pp. 135 -6. Mill's comments are part of a consideration of two theories concerning the "social position desirable for manual labourers"; one he calls the theory of dependence and protection, the other that of self-dependence.

[46] J. J. Lee, *Ireland 1912-1985* (Cambridge: Cambridge University Press, 1989), pp. 158-60.

[47] D. G. Mulcahy, "Official Perceptions of Curriculum in Irish Second-level Education", in *Irish Educational Policy - Process and Substance* ed. D. G. Mulcahy and D. O'Sullivan (Dublin: Institute of Public Administration, 1989), p. 79.

(academic, one presumes, as pertaining to the academy). The subjects are seen as the basic units of the curriculum, and progress by the student was measured largely by public examination. A core of subjects was required of all students. This sort of programme, it is asserted, was thought to provide a general education.[48]

In 1932, an alternative mathematics course, "elementary mathematics", for girls only, was introduced into the secondary schools' Intermediate Certificate course.[49] In the period 1932-34 lower courses were introduced at both junior and senior level in a number of subjects. Further reforms in 1939 abolished these lower courses in all cases except in the Intermediate courses in English and Irish; elementary mathematics was retained at the Intermediate Certificate level, again, for girls only. Honours could not be obtained in the lower courses, or in elementary mathematics.[50] All junior pupils were required to study at least six subjects: Irish, a second language, history, and geography were required of all students; mathematics was required of boys.[51]

Matters were somewhat different in the vocational school:

> Never bound by any aspirations to prepare pupils for entry to the universities, the vocational sector viewed and shaped its curriculum from the point of view of preparing pupils for entry to work in the trades, in the secretarial sphere, and in a variety of manual jobs.[52]

A significant event in vocational education in this period was *Memo V. 40* of 1942, which sough to address some curricular and political problems that had emerged following the 1930 Act.[53]

The *Vocational Education Act* had not given any detail about the curriculum. Guidelines

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[48] D. G. Mulcahy, *Curriculum and Policy in Irish Post-Primary Education*, p.11.

[49] Ibid, p. 13. An interesting symmetry is apparent here. In the secondary school, some girls did "elementary mathematics", boys did "mathematics". In the continuation school, girls did "arithmetic", boys did "mathematics". See below.

[50] Ibid. p. 13.

[51] Ibid.

[52] D. G. Mulcahy, "Official Perceptions of Curriculum in Irish Second-level Education", p. 86.

[53] Department of Education, Technical Instruction Branch, *Memorandum V. 40: organisation of whole-time continuation courses in borough, urban and county areas.*

were issued by the Department of Education in 1931, but local committees were permitted flexibility in the schemes they prepared.[54] The continuation courses were two year programmes organised into seven groups:

Table 3.1 Continuation Education Groups c. 1931

1. Preparatory course (co-educational for general subjects)
2. Junior technical course (boys)
3. Junior domestic science course (girls)
4. Junior commercial course (girls)
5. Junior commercial course (boys)
6. Junior rural course (boys)
7. Junior rural course (girls)[55]

> The main subjects offered for boys were Irish, English, mathematics, general science, rural science, art, mechanical drawing, woodwork, and metal work. The subjects for girls generally included Irish, English, arithmetic, commercial subjects and domestic economy.[56]

The presence of Irish in this list is at least one sign that the minister's letter had not been taken as the word of law. Further deviations began to creep in, especially in cultural areas.[57] Meanwhile, the system grew, with enrolments doubling to in excess of 13, 000 by 1942.[58]

O Buachalla places the origins of *Memorandum V. 40* during de Valera's tenure of the offices of Taoiseach, External Affairs, and Education; that is, from September 1939 to June 1940.[59] In the estimate speech of June 1940, de Valera pointed out that for 90% of the population, the primary school is the "only educational experience".[60] O Buachalla finds evidence in this speech of de Valera's social conservatism, which viewed with satisfaction the role of the secondary school in laying the foundations of learning and culture and in

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[54] Coolahan, *Irish Education*, p. 98.

[55] Ibid.

[56] Ibid. Mathematics for boys, arithmetic for girls - a hierarchy within a hierarchy.

[57] O Buachalla, *Education Policy in Twentieth Century Ireland*, pp. 268 - 9

[58] Ibid., Table 13.2, p. 384.

[59] Ibid. p. 268.

[60] Dáil debates, 77, 1565, cited in O Buachalla, *Education Policy in Twentieth Century Ireland*, p.268.

training the future leaders of the nation.[61] At this period, the secondary schools catered for 15% of the age group 14 - 16.[62] What, in this view, was the role of the vocational and continuation schools? De Valera could not say whether they were or were not worth the public money spent on them.[63] O Buachalla interprets this remark of de Valera's as a response to sustained pressure from the Catholic church. In this view, the bishops believed they had been misled by the ministerial letter of 1930, and now wished to have the functions of the flourishing vocational scheme redefined, in which a formal provision for religious instruction would be made.[64] Subsequently, in 1942, a department committee was established to review the work of continuation education and to make recommendations on its organisation under urban and rural conditions. This committee produced *Memo V. 40.*[65]

O Buachalla gives an account of the thinking and internal controversies of the Catholic Church concerning education in this period.[66] Fr. Martin Brennan, Professor of Education in Maynooth, had written of the Irish education system in 1938 from a perspective "...of complete satisfaction, and while bemoaning the absence of legal denominationalism, he is happier to have the reality".[67] His colleague in Maynooth, Dr. Lucey, disagreed:

> ...to be Catholic the system must realise the Catholic ideal, and not just approximate very closely to it...whoever controls the educational fare really controls education, since what is taught is so much more vital than where it is taught or who teaches it.[68]

Despite these criticisms, O Buachalla sees the church leadership to have been "generally

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[61] O Buachalla, *Education Policy in Twentieth Century Ireland.*

[62] Department of Finance internal memo, 23 Aug 1951, (D.F., S18/2/45), cited in O Buachalla, *Education Policy in Twentieth Century Ireland.*

[63] Dáil Debates, 77, 1565, translated in O Buachalla, *Education Policy in Twentieth Century Ireland.*

[64] O Buachalla, *Education Policy in Twentieth Century Ireland*, p. 269. O Buachalla mentions "an established belief" that de Valera offered the vocational system to an Irish male religious order which refused the offer.

[65] Ibid.

[66] Ibid., pp. 205-249.

[67] Ibid., p. 216.

[68] C. Lucey, "Making the school system of Ireland Catholic", in *Irish Ecclesiastical Review*, 1ii, (1938), 405-417, cited in O Buachalla, *Education Policy in Twentieth Century Ireland.*

satisfied" with the status quo.[69]

Coolahan sees the preceding trend of events as falling within the ideological orientation of the Constitution of 1937.[70] Clerical unease at the low profile of religion within the vocational system, and the promptings of the Irish Technical Education Association, resulted in the publication of *Memo V. 40.*[71] As outcomes came the specific inclusion of religious studies as part of the courses offered and a greater emphasis on the Irish language and "other distinctive features of national life".[72] Cultural studies became more central to vocational schools and their role in the restoration of Irish as a vernacular became more emphasised.[73]

Mulcahy gives details of a junior technical course for boys set out in *Memo V 40*:

Table 3.2 Junior Technical Course for Boys (Memo V. 40)

Subject	1st Year	2nd Year
Manual Instruction (wood and metal)	8 hours	10 hours
Drawing	3 hours	2 hours
Science	3 hours	3 hours
Mathematics	4 hours	4 hours
Irish	3 hours	3 hours
English	3 hours	2 hours
Physical Training	1 hour	1 hour
Religious Instruction and Other subjects	3 hours	3 hours
Total hours	28 hours	28 hours[74]

Mulcahy commends the clarity of *Memo V. 40* which "...considers such questions as

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[69] Ibid.

[70] Coolahan, *Irish Education*, p. 98.

[71] Ibid.

[72] Ibid.

[73] M. O'Riordan, "Technical vocational education, 1922 - 52: the cultural emphasis", in *Proceedings of the Educational Studies Association* (1977), 194 - 200.

[74] Department of Education, Technical Instruction Branch, *Memorandum V. 40: organisation of whole-time continuation courses in borough, urban and county areas*, cited in D. G. Mulcahy, *Curriculum and Policy in Irish Post-Primary Education*, p.17.

what does preparation for working life mean in practice, and (moves) from there to draw up a curriculum framework which reflects working life."[75] However, Mulcahy claims that the vocational school "never lost sight of its view of the broader purposes of general education", as shown, somewhat later, in 1947, in the subject organisation in the Group Certificate.[76] In fact, *Memo V. 40* states that the *general* as opposed to the *immediate* purpose of continuation and vocational education is "to develop, with the assistance of God's grace, the whole man with all his faculties, natural and supernatural, so that he may realise his duties and responsibilities as a member of society, that he may contribute effectively to the welfare of his fellow man, and by so doing, attain the end destined for him by his Creator".[77]

The immediate purpose of day continuation education was "to prepare boys and girls, who have to start early in life, for the occupations which are open to them"; the subjects are taught "with the immediate object of enabling boys and girls to make themselves useful as soon as possible in the economic and household spheres".[78] Of interest here is both the recognition of the role of *necessity* in these children's lives, the range of possibilities "open to them", and the concern that they be "useful".

Mulcahy points out that an analysis of job-opportunities and needs in borough, urban and rural areas, and the kinds of skills these required, led to the development of programmes.[79] Mulcahy sees the programmes as markedly practical as a result, and employing a much more explicit rationale for educational and curriculum development than any measure in secondary education.[80]

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[75] Mulcahy, *Curriculum and Policy in Irish Post-Primary Education*, pp. 85 - 86.

[76] Ibid.

[77] Memo V. 40, pp. 21 - 22. Mulcahy points out, with justice, that this is very similar to the kind of formulation the Council of Education (1960) was to claim as characteristic of general education. For this to serve as a criterion of distinction between general and vocational education, a more detailed examination of its terms will be required. See below.

[78] Ibid., p. 3.

[79] D. G. Mulcahy, *Curriculum and Policy in Irish Post-Primary Education* , p. 66. Typical occupations were in agriculture, maintenance and manufacture, transport and communication, personal and domestic service, commerce and clerical work.

[80] Ibid., p. 67.

Mulcahy sees the introduction of public examinations for this programme (the Day Vocational Group Certificate examination) in 1947 as a result of representations from the Irish Technical Education Association requesting certification for students seeking employment.[81] As discussed above, this association had found the introduction of religion and Gaeilge into the curriculum to be a more pressing issue five years earlier in 1942.

Coolahan sees the introduction of public examinations for the Day Group Certificate in terms comparable to the introduction of a compulsory Primary Certificate, i.e. in the sense of de Valera's remark that "I am less interested in the teacher's method of teaching than I am in the results he achieves, and the test I would apply would be the test of an examination".[82] O Buachalla sees the measure as an indication that the minister, Deirg, shared de Valera's strong commitment to the principle of accountability within the system, the latter's attitude resulting from devotion to "the twin Victorian orthodoxies of detailed specified syllabuses and regular formal evaluation".[83] Thus the priority for the government seems to have been that teachers should be accountable for their work via a system of public examinations. A natural expectation here would be that the teachers would be anxious that the forms of assessment matched the curriculum.

The introduction of the Day Group Certificate, taken with with the embrace of the language movement and the introduction of religious instruction, can only have marked the continuation schools as being culturally more orthodox than before. To those who had no choice, Hobson's choice was now, in part, an orthodox one.

It should be noted that the *technical schools* had had a system of public examination since 1936.[84] Written and practical examinations were held in the following groups of courses: building and electrical engineering, mechanical engineering, motor car engineering, applied chemistry, commerce, domestic science, art, farriery, telephony and

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[81] Ibid., p.17.

[82] *Dáil Eireann Proceedings*, vol. 83, 1097 (27 May 1941), cited in Coolahan, *Irish Education*, p.43.

[83] O Buachalla, *Education Policy in Twentieth Century Ireland.*, pp. 265, 269.

[84] Coolahan, *Irish Education*, p. 100.

telegraphy.[85] The titles of the subject give clear evidence of the specifically vocational nature of the courses taught and examined.

3.5 The Period from 1948 to 1957

O Buachalla sees the period 1948-57 as a period of "critical moves and counter-moves designed to forestall or influence any emerging reforms", in the post-war atmosphere of reconstruction in Europe and the emerging welfare state.[86] A committee established by Deirg at de Valera's request in 1945 to consider what might be learned from post-war plans for education in Great Britain and Northern Ireland, was slow to report.[87] A proposal was put forward in 1947 to establish a new form of single-sex senior school, offering a comprehensive curriculum, and drawing on a catchment area of five miles in radius; these schools were to replace the vocational schools.[88] The committee concluded, however, that:

> The *general education process is essentially religious* and the new system, however organised, should be subject to ecclesiastical sanction.[89]

The representative of the technical instruction branch opposed this conclusion and added a personal memorandum:

> Why lavish money on school buildings and then try to empty them? Why start Education Committees and stop them when they are doing well?[90]

The report of the committee came to nothing.[91] Deirg's successor, Mulcahy, sent the report

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[85] Ibid.

[86] Ibid., p. 271.

[87] Ibid., p. 264.

[88] Ibid.

[89] Memorandum (Final Report), par 25, (S.P.O., S12891'B'), cited in O Buachalla, *Education Policy in Twentieth Century Ireland.*, p. 265. Emphasis added.

[90] Note on continuation schools with reference to par. 31, signed by J. P. Hackett, 18 July 1947, (S.P.O., S12891'B'), Ibid.

[91] O Buachalla, *Education Policy in Twentieth Century Ireland.*, p. 265.

to the Roman Catholic hierarchy, indicating that he was not committed to the proposals.[92]

Whyte sees the period as one of deepening power and influence by the Catholic Church.[93] Due to these trends and, later, due to Moylan's active policy of spending a great deal of scarce finances upon the building of vocational schools in the period 1951-54, there was a

> growing resistance by Church agencies to any state initiative in the realm of education; this resistance was particularly directed against the vocational system which came under sustained attack. 'The only satisfactory answer', according to the Catholic secondary managerial bodies, 'was to scrap the vocational system as at presently administered...and start the system over again on new and thoroughly Catholic lines'. These demands are echoed in the press and in Catholic journals, some of which linked the secular nature of the vocational system with the communist regimes of Eastern Europe.[94]

The vocational system was growing, as was the secondary sector. Moreover, the vocational schools may have seemed a more permanent measure than heretofore: calculated from data in O Buachalla, the following table shows the number of places in vocational schools per hundred places in secondary schools in the years 1926, 1936, and 1946.[95] The ratio seems reasonably stable, and may be evidence of a consistent policy. During this period, the number of places in each sector doubled.

Table 3.3 Number of places in vocational schools per 100 secondary school places (selected years 1926 - 1946)

Year	1926	1936	1946
Voc.	37	37	33
Sec.	100	100	100

[92] Ibid.

[93] J. H. Whyte, *Church and State in Modern Ireland* , p. 158.

[94] *Annual Report, CCSS*, 1948, 52; *The Irish Monthly*, lxxvi, 903, (1948); *The Roscommon Herald*, editions of 16 Oct 1948 and 30 Oct 1948; cited in O Buachalla, *Education Policy in Twentieth Century Ireland*, p. 271.

[95] O Buachalla, *Education Policy in Twentieth Century Ireland*, Table 13.2, p. 384. The figures for 1961, 1966, and 1971 are: 34, 37, and 36. In 1985/86 the ratio was 36, calculated from data in National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, No. 95 (Dublin: NESC, October, 1993), p. 12. From 1926 to 1971, the number of places in the secondary and vocational sectors increased by a factor of 7.4 and 7.1, respectively.

It should be noted, however, that in 1944, of the 14-16 year old cohort, 19% were attending primary school, 15% were attending secondary school, and 7% were attending vocational school; *58% of this cohort was no longer attending school.*[96]

In addition to the continuing fears of the Catholic Church that the vocational education system was an embryonic state system of free education, publicly articulated attitudes towards this sector continued to be negative.[97] Lee, Coolahan, Mulcahy, and O Buachalla are unanimous in recording this feature of public life, and allocating its cause to a preference for white-collar employment among those for whom such employment was a possibility for their children.[98]

A further opportunity to examine the distinction between general and vocational education is provided by the deliberations of the Council of Education on secondary education, deliberations which began in 1950.[99] The report of the Council was published in 1960 and may be seen to give a public account of what the Roman Catholic Church, as effective owners of the greatest part of the secondary system, believed it was doing in providing general education in secondary schools.[100] Mulcahy sees the entire perspective of the report of the Council of Education as "somewhat confused", with a consistent failure to distinguish between the aims of education and the traditional curriculum of the secondary school, a confusion of means and ends.[101] General education is said to be "...humanistic and intellectual in character; providing classical and modern languages, mathematics and science".[102] It has been "assigned as the role of the secondary school as distinct from the

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[96] Ibid., Table 3.3, p. 78.

[97] That is, the opinions were those of that section of the population who were able to publish them.

[98] O Buachalla, *Education Policy in Twentieth Century Ireland*, pp. 358-9; D. G. Mulcahy, *Curriculum and Policy in Irish Post-Primary Education*, p.79; Coolahan, *Irish Education*, p. 103; J. J. Lee, *Ireland 1912-1985,* p. 132.

[99] *Report of the Council of Education: the curriculum of the secondary school*, (Dublin: The Stationery Office, 1960). The history of the origins of this body lie in the flirtation with corporatism, known in Ireland as "vocationalism", which followed the publication in 1931 of the papal encyclical *Quadragesimo Anno* . See J. J. Lee, *Ireland 1912-1985,* pp. 271-8.

[100] Geertz, *The Interpretation of Cultures.*

[101] D. G. Mulcahy, *Curriculum and Policy in Irish Post-Primary Education* , p. 58.

[102] *Report of the Council of Education: the curriculum of the secondary school*, p. 88.

vocational or professional school".[103] It is "an all-round formation, aimed at the development and enrichment of the faculties of the human person rather than his specialised preparation for a particular skill or profession".[104] A person who has received such an education would "popularly be regarded as "educated" - a person of character and knowledge capable of taking a responsible place in the society of which he is a member".[105]

What had been the historical curriculum of general education? The report concludes that an inspection of the practice of the traditional schools of Europe shows "religious and/or moral instruction; command of the native language in speech, writing, literature; a reasonable outline of history and geography; elementary mathematics; drawing; singing and some initiation into science'.[106] Mulcahy is puzzled at the leap the report makes from this list of traditional fare to the inclusion of subjects that at the time of the Council's report were current in some secondary schools: woodwork, domestic science and commerce.[107] The Council seems aware of this problem, and moves from indicating what general education is by listing the curriculum, to justifying the inclusion of subjects such as woodwork by virtue of their *educational* (as opposed, one presumes, to their *use*) value:

> the aim of manual instruction in secondary schools...is primarily an educational one, and the teacher's efforts should be directed not only to the training of the pupil in the use of tools and materials, but also to the development in him of self-reliance, resourcefulness, and initiative.[108]

The distinction being made here is between *skill* ("use of tools and materials") and *personal attitudes* ("self-reliance, resourcefulness, and initiative"). The inclusion of domestic science for girls is "so obvious that it does not require to be stressed", while commerce is included because it was included in the old intermediate schools since the 1880s, and it

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[103] Ibid., p. 90.

[104] Ibid.

[105] Ibid.

[106] Ibid., p. 92. "Initiation" is an interesting choice of word, worthy of Durkheim.

[107] D. G. Mulcahy, *Curriculum and Policy in Irish Post-Primary Education*, p. 61.

[108] *Report of the Council of Education: the curriculum of the secondary school*, p. 196.

"does, in fact, contribute to the pupil's general education".[109]

Mulcahy considers some of the unspoken, or *sotto voce* assumptions of the Council's deliberations, and, indeed, the considerations which guided the the day-to-day activities of secondary schools over the years.[110] In summary, these are said to be: the attention given to promoting general education within a religious context, a context provided more by the broader religious atmosphere of the school than by the curriculum followed; a commitment to developing in the students the social values and graces proper to those who would attain positions of leadership within society, a commitment attended to by "the less visible protocols, games and authority structures which prevailed" .[111]

More explicitly, the Council saw the school as an agent of cultural preservation and transmission as well as one of organised formation of the young, in which role the school was "subsidiary and complementary to the family and the Church".[112] This view might be taken to indicate a better understanding of how culture is transmitted to the young in traditional societies, Weber's "agrarian literate societies", than Lucey's remark, cited above, that what is taught is so much more vital than where it is taught or who teaches it. The latter remark is perhaps evidence of a certain combative modernity in the wider Catholic Church, born of the historical experience of the rise of liberal capitalism and socialism: traditional society was disappearing, the Church must compete *rationally* for its position and promote its own social policies.[113] That is, new cultural forms may need to be invented. Lucy was heavily identified with the corporatist movement, "vocationalism", and the Council of Education was an offshoot of this development. O Buachalla sees Lucey's controversy with Brennan as centred on the proposal to establish the Council.[114]

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[109] *Report of the Council of Education: the curriculum of the secondary school*, pp. 192, 178 - 80.

[110] D. G. Mulcahy, *Curriculum and Policy in Irish Post-Primary Education*, p. 64 - 5.

[111] Ibid.

[112] *Report of the Council of Education: the curriculum of the secondary school*, p. 88.

[113] E. Hobsbawm, *Age of Extremes: The Short Twentieth Century 1914 - 91* (London: Michael Joseph, 1994), pp. 114 - 15.

[114] O Buachalla, *Education Policy in Twentieth Century Ireland*, p. 216.

3.6 The Period from 1957

The Council of Education contemplated the curriculum, Ireland changed. The historical and social trends of the period find a conjuncture in the elections of 1957, the departure of de Valera to Aras an Uachtaran, and the publication of *Economic Development.*[115]

There was a new emphasis at this time upon education as an economic investment and as an instrument to develop technical skills in the labour force.[116] One of the first fruits of this new orientation in official thinking was the *Apprenticeship Act (1959)* and the subsequent establishment of a National Apprenticeship Board (1960).[117] Possession of the Day Vocational Certificate became the basic qualification for entry to apprenticeship: continuation education had a certificate of value.[118]

Another manifestation, in part, of the new technical orientation is the 1963 announcement by Dr. Hillary, minister for education, that a new form of school, the comprehensive school, would be established in areas not already served by a post-primary school; that the two year courses in vocational schools would be extended to three years; that a wide Intermediate Certificate course would be offered by both secondary and vocational schools; that a Technical Leaving Certificate would be introduced; and that a new regional institution, the regional technical college, would be established to boost technical education and help align education provision with manpower needs.[119]

The comprehensive school was to offer junior cycle studies only, cater for a minimum of 150 pupils, be co-educational, offer a wide curriculum to match the aptitudes of the pupils, would benefit from a guidance service, and have a transport system for the school's

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[115] J. J. Lee, *Ireland 1912-1985,* pp. 329 - 410. *Economic Development* (Dublin: The Stationery Office, 1958).

[116] Coolahan, *Irish Education.*, p. 131; J. J. Lee, *Ireland 1912-1985*, p. 631 - 5; O Buachalla, *Education Policy in Twentieth Century Ireland.*, p. 280-82; D. G. Mulcahy, *Curriculum and Policy in Irish Post-Primary Education* , p. 69; S. Drudy and K. Lynch, *Schools and Society in Ireland* (Dublin: Gill and Macmillan, 1993; K. Lynch, *The Hidden Curriculum* (Lewes: Falmer Press, 1989), p.140.

[117] *Apprenticeship Act, 1959*, No. 39 in public statutes of the Oireachtas.

[118] Coolahan, *Irish Education.*, p. 101. The previous attempt at an Apprenticeship Act had been taken in 1931. Coolahan comments: "In the event most trades did not accept the provisions and the Act accomplished little". Ibid.

[119] Ibid., pp. 193 - 194.

catchment area, an area ten miles in radius.[120] These proposals bear more than a passing resemblance to the Department of Education's proposals of 1947 which proved so unwelcome to Deirg, and his successor, Mulcahy, due to the fear of conflict with the Roman Catholic Church.[121] Moreover, Coolahan does not detect evidence of a demand for a new institutional form of school in public opinion and debate, though there appeared to be a heightened awareness of such issues as the cost of schooling, the curriculum content, and new teaching methodologies and technologies.[122]

Barber gives an interesting overview of the development of comprehensive schooling in this period.[123] At an international level, Barber situates the comprehensive school within the post-war expansion of post-primary education.[124] It is said to have five "interdependent characteristics": the institutional (all children should attend the same school), the economic (education should serve economic development), the social (education should lead to greater equality of access to social wealth and power), the curricular (a common curriculum as an initiation into a common culture), and the philosophical (the person as knower, maker, doer, and social being; acknowledgement of the interplay of the practical and the theoretical in learning).[125]

Barber sees the introduction of the comprehensive school in Ireland as initially motivated by an official concern to ensure that all children had post-primary education available to them at a modest cost.[126] An additional, and explicit, motivating element is the idea that education was an investment in human resources, producing skills required for economic expansion.[127] The notion that the comprehensive school could be a tool to bring about greater equality of educational opportunity is said to have arisen later, in the period 1963 -

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[120] Ibid., and Noel Barber S.J., *Comprehensive Schooling in Ireland* , ESRI Broadsheet Series No. 25, (Dublin: Economic and Social Research Institute, Nov., 1989), p.49.

[121] O Buachalla, *Education Policy in Twentieth Century Ireland.*, p. 271.

[122] Ibid., p. 133.

[123] Noel Barber S.J., *Comprehensive Schooling in Ireland* .

[124] Ibid., p. 45.

[125] Ibid.

[126] Ibid., p. 59.

[127] Ibid.

1970, one of whose defining events was the announcement of "free-education" in 1966.[128] In short, the Irish initiative appears to have had only *one* of the five characteristics claimed as common to the international experience of introducing the comprehensive school.

The implementation of the model of the comprehensive school in Ireland is viewed by Barber as having been shaped by a faltering official purpose; deepening clerical reaction; inadequate curriculum theory; and persisting values about academic and practical knowledge, reinforced by the university.[129] The change of the name of the institution under consideration from comprehensive school to community school reflects the change in the terms of the debate - the community school is the comprehensive school explicitly subject to ecclesiastical sanction.[130] The persistent issue of contested control of education in Ireland resurfaced.[131] The primary motivation of the Department of Education continued to be the rational uses of resources, especially in rural areas and small towns.[132] By 1984, it is claimed that the Department of Education came to accept "the tripartite division of the post-primary system into vocational, secondary and community/comprehensive schools".[133]

In terms of outcomes, Barber sees the community schools as providing formal equality of opportunity to students to study all subjects, academic and practical; but in fact,".. reproducing under one roof the dual system found under the two roofs of vocational and secondary schools".[134] Moreover:

> Equality of educational opportunity implies not only "equal" schools, but equally effective schools whose influence can overcome the differences in the starting point

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[128]Ibid., and Coolahan, *Irish Education*, p.195.

[129] Noel Barber S.J., *Comprehensive Schooling in Ireland*, p. 102.

[130] Community schools were often founded upon the integration of existing schools in an area, one or more of which may have been church schools.

[131] Ibid.

[132] The heat of the debates surrounding school amalgamations is well described in T. J. Owens, "Central Initiatives and Local Realities: Curriculum Change in County Cork VEC Schools, 1963 - 83", in *Irish Educational Policy - Process and Substance*, ed. D. G. Mulcahy and D. O'Sullivan, (Dublin: IPA, 1989), pp. 163 - 190.

[133] Department of Education, *Programme for Action in Education, 1984 - 87,* (Dublin: The Stationery Office, 1984), cited in Noel Barber S.J., *Comprehensive Schooling in Ireland*, p. 126.

[134] Noel Barber S.J., *Comprehensive Schooling in Ireland*, p. 85.

of children from different backgrounds.[135]

An outcome identified by Barber has been the increasingly academic character of vocational education.[136] The Group Certificate (then a two year programme) was widened after 1963 to bring it closer to the curriculum of the academic secondary school. This "led to a curtailment of time given to the practical subjects".[137] When the school leaving age was raised to 15 years in 1972, the Group Certificate examination, taken heretofore in the second year of post-primary education, was either taken in vocational schools at the end of the third year of post-primary education, or used as a trial exercise for the Intermediate Certificate examination, which did not examine the vocational subjects.[138] Furthermore, the universities were slow to recognise some vocational subjects at Leaving Certificate (Art and Home Economics, for example) and maintained matriculation requirements for subjects which were "exclusively cognitive intellectual subjects".[139]

Mulcahy and Drudy and Lynch see the secondary tradition as the winner in an unequal contest between general and vocational education, either in the case of the two sorts of school competing for success in academic programmes such as the Leaving Certificate, or in the case of the two traditions competing under the one roof, as in the comprehensive or community school.[140] With continuing official efforts to keep larger numbers of students in school (and out of the labour market) longer, the inability of an essentially academic curriculum to engage the entire cohort of students has become more clear.[141]

3.7 Discussion

This section is intended to relate the events and trends of the foregoing historical overview to the analysis of the education system given at the beginning of Chapter 2 of this work.

[135] Ibid., p. 126.

[136] Ibid., p. 88.

[137] Ibid.

[138] Ibid., p. 89.

[139] Ibid., p. 98.

[140] D. G. Mulcahy, *Curriculum and Policy in Irish Post-Primary Education*, pp. p. 115. S. Drudy and K. Lynch, *Schools and Society in Ireland*, pp. 119-120.

[141] S. Drudy and K. Lynch, *Schools and Society in Ireland*, p. 120.

The purpose of this overview is historicise general and vocational education in the Irish context and to chart the emergence of these issues as official issues.[142]

It should be understood that the educational achievements of the nineteenth century in Ireland were due

> ultimately and equally to church initiatives and to positive state intervention; the controversy and the conflict arose inevitably from the divergent perspectives of the churches and the state on education and on its structure and on their respective roles in its provision and management.[143]

The "controversy and conflict" may be seen as a contest for pedagogic authority between the British administration in Ireland, the Church of Ireland, the other reformed churches, and the Roman Catholic church. In the same period in France, Bourdieu comments,

> the Church has long fulfilled quasi-state functions of general interest and public service; it achieved the first *concentration of public capital* dedicated to public ends - education, care of the sick, of orphans, etc., which explains why it entered into very violent competition with the state at the moment when the "social" state was put into place, in the nineteenth century.[144]

The particular configuration the Irish education system inherited from the nineteenth century may be seen as a reflection of the state of play and of the compromises agreed between the parties on the basis of the balance of forces.

It should also be noted that the events which led to national independence were entirely disruptive of both the historical trend of developments and the consensual order.

> It is almost a freak of history that the (Easter) Rising (of 1916) occurred and had the ultimate effect that it had. It derailed the course of Irish political history. It is because of it that our state is a Republic. That is not the direction in which politics had been tending, but towards some renewed accommodation with a British Imperial destiny which, before the Great War, seemed to be the future.[145]

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[142] See Chapter 1 - Methodological Considerations.

[143] O Buachalla, *Education Policy in Twentieth Century Ireland* (Dublin: Wolfhound, 1988), p. 19.

[144] Pierre Bourdieu, *Practical Reason*, p. 120.

[145] Liam de Paor, "Ag Réabadh Bás: The heritage of '98", *Times Change*, 14 (Summer 1998), 23.

This period saw the introduction of examinations which produced a certification effect for "a liberal education", and a series of measures to raise the level of technical knowledge. "Liberal education" continued with an orientation towards the academy and the Platonic *skholè*. Technical education, with its emphasis on the *principles* of science, as well as the *application* of science to industries, pointed towards the creation of a technical worker, superior in the industrial order to those workers who had mastered merely the *application* of scientific techniques to industry. Because of the relative lack of interest by the churches in technical education, the British administration had a freedom of action in the areas of funding and administration of such education that had consistently eluded it in every other aspect of educational provision in Ireland.

The possibly disruptive effects of the period from 1916 upon the *status quo ante* in education is perhaps revealed by the speed with which the Dáil Commission on Secondary Education was established. De Valera "conspicuously failed" to nominate a minister for Education in his first cabinet of 1919 "in order to avoid potential tension with the Catholic church." [146] Moreover, the balance of power had shifted between the churches, as evidenced in 1923 by the communication to the head of the government, W.T. Cosgrove, of the view of the Roman Catholic archbishop of Dublin, that "the Catholic Church had not merely the right, but the duty, to control Protestant consciences," a formulation of pedagogic authority worthy of Bourdieu.[147] Moreover, secondary education was attended to by a Dáil commission, while technical education was attended to by an expert commission, the Ingram Commission.

The intention expressed in the *Vocational Education Act (1930)* that continuation schools should "continue and supplement" elementary (ie. general) education and provide "general and practical training", upon the basis of regular public funding, might be taken as a determined continuation of the previous policy of preparing a cohort of skilled workers, capable of supervising the work of others. This reading is based on Bourdieu's view that the "practical" points to the possession of technical skill, while the "general" points to possession of a position in a social hierarchy. The mixed nature of continuation education

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[146] D. W. Miller, *Church, State and Nation in Ireland, 1898 - 1921* (Pittsburgh, 1973), p. 441, cited in J. J. Lee, *Ireland 1912 - 1985* (Cambridge: Cambridge University Press, 1989), p. 42.

[147] SPO, S4127, E.J. Byrne to W.T. Cosgrave, "Catholic teaching on marriage", 4 March 1923; E.S. Dugain to W.T. Cosgrave, 20 March 1923, cited in cited in J. J. Lee, *Ireland 1912 - 1985*, p. 77.

points to the possession of both sorts of "capital". Having acquired the social capital forbidden to the unskilled, the student who progressed to technical education from the continuation school, or from the secondary school, would acquire a more advanced variety of technical capital, while instruction in "elements in science and art not specific to particular employments" would provide the theoretical and cultivated character required to produce social capital.

The difficulties the minister for education found himself in with the Roman Catholic church seem explicable within the terms of the foregoing analysis. Aspects of continuation education were clearly "general" in nature, but on no account could be admitted to be so. A translation of what the minister might have been trying to say to the Roman Catholic church might run as follows:

> The element of general education in continuation education and technical education is intended to give to those who consume it a status within the hierarchy of industrial employment. This element is not intended to give status within the broader social world, a field within which the Roman Catholic church has a pedagogical authority uncontested by the State. The students in continuation schools will have their future occupations kept continually before them, lest they mistake the social trajectories available to them. Why the State is making provision at all in these matters is because the education the church provides does not have a high enough technical content. The Maynooth Decrees acknowledge this distinction between technical skills and general education. The elements of general education provided in continuation schools will be named in such a fashion that these distinctions are made clear. Thus
>
> | | |
> |---|---|
> | Commercial History | History |
> | Commercial English | English[148] |
>
> Moreover, students in continuation and technical education will not be permitted to obtain the social capital credentialised in the Intermediate and Leaving certificates. Finally, these students will not receive instruction in Irish or other cultural matters, these being new additions to our notion of the cultivated person.

Mulcahy appears to get very close to a definition of general education as a cultural arbitrary through his recognition that general education is that which is taught in secondary schools and certified by public examination. By contrast, vocational and technical education may be rationally related to both local and national industrial, agricultural, and trade occupational opportunities.

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[148] The relation of Book-Keeping to Commerce presumably avoids the embarrassment of opposing Commercial Commerce to Commerce.

The unsettled nature of the arrangements concerning certificate examinations in the period 1932 - 39 seems difficult to read without further and detailed research. One possible cause of the proliferation of levels is that the schools were having difficulty in teaching "open" courses without prescribed texts, an experience found to be "very demanding" by students and teachers.[149] Coolahan distinguishes between the measures taken in this period with regard to the promotion of the Irish language and those taken to differentiate between other subjects.

> Apart from the changed status of Irish the main lines of the curriculum continued as they had been, though there was a decline in the study of modern continental languages. Higher and Lower courses were introduced in the early 1930s for several subjects and mark allotments varied between grades and subjects. These mark ratings were important for winning state intermediate scholarships or for careers where the aggregate of marks came into account for recruitment purposes. Modern languages, science, commerce, drawing, manual instruction all scored lower than other subjects and Irish got more marks than English. The tendency for a predominantly literary curriculum with Latin as the predominant 'extra' language continued.[150]

This may be represented schematically as shown in figure 3.2,

Irish

English
Mathematics

Other Subjects:
Latin
History
Geography

Modern Languages
Science
Commerce
Drawing
Manual Instruction

Figure 3.2 Mark Ratings for Various Subjects c.1930

revealing an interesting hierarchy from the general to the technical. The place given to Irish

[149] S. O Buachalla, *Education Policy*, p. 147.

[150] J. Coolahan, *Irish Education*, pp. 77 - 78.

is the result of the cultural orientation of the new state.[151]

One interpretation of Coolahan's data is that the existing certificate examinations were failing to differentiate adequately between the candidates, especially those competing for state intermediate scholarships or for careers where the aggregate of marks came into account for recruitment purposes. Lee records that in the civil service entry examinations in 1931 and 1932, there were

> fifteen applications for every vacant post as writing assistant (seventh standard, national school), nineteen applications for every clerical grade post (Intermediate Certificate level), fifteen applications for every junior executive post (Leaving Certificate level), and twenty-two applications for every post at junior administrative level (university degree).[152]

Expressed as probabilities of success, the figures are:

Table 3.4 Probabilities of Success at Civil Service Entrance Examinations (1931-32)

writing assistant (seventh standard, national school)	0.067
clerical grade post (Intermediate Certificate level)	0.053
junior executive post (Leaving Certificate level)	0.067
junior administrative post (university degree)	0.045

The provision of "open" (ie. not explicit) courses of study, a scheme of mark ratings favouring the most traditional secondary school subjects, and differing levels at which the subject could be examined (permitting students to include or exclude themselves), would appear to favour those students most able to benefit from implicit and traditional education.

The mark ratings system seems to be an example of intervention by the state to establish an "exchange-rate" *within* the subjects of the secondary school curriculum, now considered as *differentiated* species of cultural capital, after the manner of Bourdieu. (The subjects of the vocational school were not, in these terms, a convertible currency at all). The capacity

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[151] This is discussed below.

[152] J.J. Lee, *Ireland 1912 - 1985*, p. 196.

of the state to intervene in this way raises questions about the nature and extent of the consultations entered into by the state. Participation in such discussions would constitute a presence as a player in the "field of power", the highest level of contest for Bourdieu. If the action of the state was unilateral, it might add a little evidence to Lee's conviction that the state could act decisively when it wished.[153] If the immediate issue of the mark ratings issue was to differentiate among candidates for positions in the civil service, then the state may have seen no reason to consult with anyone.

In this period, gender distinctions were institutionalised in mathematics in secondary schools:

1932-34	
Male	Female
Intermediate course Intermediate Lower course	Intermediate course Intermediate Lower course Elementary course
1939	
Male	Female
Intermediate course	Intermediate course Elementary course

Figure 3.3 Gender Distinction in Intermediate Level Mathematics (1932 - 1939)

and in the minimum of six subjects which had to be studied at this level:

Male	Female
Irish A second language History Geography Mathematics	Irish A second language History Geography

Figure 3.4 Gender Distinction in Intermediate Certificate Subjects (1930s)

[153] Ibid., pp. 578 - 579.

As Coolahan indicates, a typical strategy of the period was to study Latin as the second language instead of a modern language.[154] English would be studied by all, but, rhetorically, is not mentioned as a requirement in the regulations. O Buachalla notes de Valera's satisfaction that over 80% of secondary school boys studied Latin and 25% studied Greek while 85% of secondary girls studied French, a subject also studied by 25% of boys who studied a modern language.[155] Taken together, these data indicate the following fare as typical of the period:

Male	Female
Irish	Irish
English	English
Mathematics	Mathematics (one of two courses)
Latin	
History	History
Geography	Geography
	French

Figure 3.5 Typical Choice of Intermediate Certificate Subjects by Gender (1930s)

Such choices would have maximised the benefits from the mark ratings system, though choice of the elementary course in mathematics barred the opportunity of obtaining an "honour" in the subject. The mark ratings system would also benefit boys, given the higher take-up rate of Latin, which had a higher rating than French.

One final remark relating to Coolahan's data concerns Latin. A striking feature for this author, in reading Bourdieu, is how sensitive he is to the impact of Roman Catholic cultural forms upon French social life, matters that do not loom so large in the literature on education in Ireland, where issues of power and control stand out so clearly. In this regard, it is worthwhile to be aware that until the second Vatican Council, the language of most ritual in Roman Catholic religious services was Latin. The point here is not the contribution that the study of Latin might make to the school as a vehicle for the reproduction of clergy and religious, but that it established an immediate division within the church congregation, between those who could understand the words and those who could not, a distinction with

[154] Coolahan, *Irish Education*, pp. 77 - 78.

[155] O Buachalla, *Education Policy*, pp. 269 - 270.

a strong element of association with gender.

O Buachalla records the strong opinions expressed at annual meetings of The Conference of Convent Secondary Schools in this period.[156]

> The major educational issues of policy which exercised the conference arose mainly during the forties and can be construed as revolving round the role of the state in education, the suitability of the secondary curriculum, and the growth of the vocational system.[157]

A three-woman commission reported in 1945 on "the existing educational system as to aims, curricular provision and examination demands". This body found that the secondary curriculum was "designed for boys in preparation for university work, was over-intellectual and bookish".[158]

> It also found that such a programme prevented the schools from serving the needs and best interests of their pupils by training them for the 'real work of life' as woman, wife and mother.[159]

An "alternative course" was proposed throughout the secondary system, in which special emphasis "would be laid on home-making subjects which would foster "those qualities of head and heart that will fit a girl to fulfil her function as wife and mother".[160]

> The conference further proposed that there should be two Leaving Certificate courses, one to cater for the intellectual 20% and the other designed for the needs of the majority. The examination process for the latter course would include as an essential element a certificate of personal reliability and efficiency awarded by the school authorities, based on records kept by the school.[161]

General education, seen in Bourdieu's analysis as pointing to superior positions in social

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[156] O Buachalla, *Education Policy*, pp. 148 - 155.

[157] Ibid., p. 151.

[158] *Annual Report* , CCSS 1945, 36, cited in O Buachalla, *Education Policy*, pp. 151.

[159] Ibid.

[160] *Annual Report* , CCSS 1945, 40, cited in O Buachalla, *Education Policy*, pp. 152.

[161] *Annual Report* , CCSS 1945, 39, cited in O Buachalla, *Education Policy*, pp. 152.

space, can only be of limited use to a group whose trajectories in social space are heavily curtailed. Education could lead to positions in nursing, teaching, or the civil service, despite the effect of the marriage bar on such appointments. In these circumstances, training in "the real work of life as a woman, wife, and mother" would seem to provide a less arbitrary education than general education. This realisation must have given particular point to the nuns' views of the vocational school, which transparently offered what they could not give.

The difficulties the nuns had with the vocational schools turned on the perception of these schools as being staffed by lay men and women, who were "practically civil servants and thus dependent neither on pupil numbers or examination results", giving education to boys and girls in the same classroom, conducted on a principle of "free discipline".[162] The scant knowledge of religion possessed by the students was a cause of alarm.[163] Proposals to deal with these issues included permitting the vocational school to continue its excellent work, but with adults only; building "vocational blocks" (i.e. separate buildings) as additions to secondary school premises; and adding "vocational tops" to the national schools to parallel "secondary tops".[164]

Issues concerning the employment of teachers continued to arise in this period. The secondary teachers' trade union, the ASTI, had urged The Conference of Convent Secondary Schools in 1946 to appoint only 'qualified' teachers, that is, those holding a degree and a postgraduate diploma, in the secondary schools.[165] In response, the conference

> rejected the claim that in a Catholic school a degree is the most important qualification for a teacher. According to the conference, religious, moral and social convictions, were of much greater import, for the possession of which a degree gives no assurance. The CHA (Catholic Headmasters' Association) and the Conference declared jointly in 1947 that they would hold to the practice of placing on their staffs teachers whom they considered qualified, whether they possessed a degree or not.[166]

In the vocational schools, by contrast, the teachers were graduates or, in the case of

[162] Ibid.

[163] *Annual Report* , CCSS 1945, 56, cited in O Buachalla, *Education Policy*, p. 153.

[164] Ibid.

[165] O Buachalla, *Education Policy*, p. 152.

[166] *Annual Report* , CCSS 1946, 61, cited in O Buachalla, *Education Policy*, p. 153.

technical subjects, had served approved trade apprenticeships, followed by a teacher training course of two to three years duration. Moreover, exacting written and oral tests in Irish were compulsory.[167]

A contrast to the curricular provision in secondary schools may be found in the *Vocational Education Act* of 1930 and *Memo V. 40* of 1942. The forms of work and employment envisaged are indicated by the way the courses of instruction were grouped: technical, domestic science, commercial, and rural. Local committees had been permitted to prepare schemes since 1931, offering an opportunity for local needs and work opportunities to be addressed. Gender plays an organising role, with different courses for each sex, as shown in figure 3.6:

Male	Female
Technical	Domestic Science
Commercial	Commercial
Rural	Rural

Figure 3.6 Gender Distinction in Continuation Education by Course (1930s)

and different subjects offered, as shown in figure 3.7:

Male	Female
mathematics	arithmetic
general science	commercial subjects
rural science	domestic economy
art	
mechanical drawing	
woodwork	
metalwork	

Figure 3.7 Gender Distinction in Continuation Education by Subject (1930s)

with English, Irish, and Religion as common subjects. The possibility arises here of constructing a continuum of knowledge from general to technical, where the internal relations reflect not only the relations between positions in the hierarchy of social life but also those between the two genders, organised on a scale from dominant to dominated.

The episodes associated with the period 1942 to 1947, that is, from *Memo V. 40* to the

[167] J. Coolahan, *Irish Education*, p. 102.

The episodes associated with the period 1942 to 1947, that is, from *Memo V. 40* to the establishment of the Group Certificate, see the partial extension of the pedagogic authority of the Roman Catholic church into the domain of vocational education. O Buachalla's remark that de Valera had offered the vocational school system to a religious order might be read as an indication that if the church wished to wield total pedagogical authority in such a system, the state would not contest the issue. Such a reading is consonant with OBuachalla's analysis that de Valera's "absolute political desire" was to avoid church-state conflict, especially with those bishops who did not share his "basic political vision".[168] Taken in these terms, de Valera's offer may be seen as a strategy of some subtlety. Lee's analysis agrees with this, setting out the complexity of the issues de Valera had to address in this period, especially during the Second World War.[169] In immediate terms, however, de Valera's offer conceded the principle, and the failure of the Roman Catholic church to take up the offer would tend to forestall future criticism of how the state might manage affairs. The church seemed content to extend to the vocational schools the right to reproduce the religious habitus, without conceding the right of access to educational credentials of value. Yet a credential became available in 1947 in the form of the Group Certificate. The state proved to be more inclusive than the church of the greater number of the citizens of the state: a state of affairs that requires deeper analysis and an appreciation of the role of nationalism.

The discussions in 1947 about the comprehensive school as a replacement for the vocational school are of interest. The statement that the general education process is essentially religious was a frank recognition of the continuing pedagogical authority of the Roman Catholic church. In this reading, the vocational school as governed by *Memo V. 40*, represented an accommodation between church and state, one that could not be unilaterally altered. However, dissatisfaction with this accommodation was increasingly expressed by church bodies, and, in O Buachalla's view, centred on a demand for amendments to the Vocational Education Act of 1930, which would make the vocational system formally denominational. The response of the Department of Education committee which considered these questions from 1945 to 1947 was to offer a free, single-sex, junior cycle comprehensive school, the "Senior School", with a religious involvement in its management. This restructuring would be linked to a raising of the compulsory attendance

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[168] S. O Buachalla, *Education Policy*, p. 270.

[169] Lee, *Ireland 1912 - 1985*, pp.175 - 258.

age to fifteen and later to sixteen years of age.[170] Though the committee considered that the comprehensive curriculum would be suitable for all children from the age of twelve plus, "a group is identified, which includes those who will later fill the professions, for whom the type of education given in the secondary schools would be more suitable".[171] Implicit in this issue is the question of funding, for the vocational schools were funded from direct local taxation, with building expenses coming from central government sources; to permit formally denominational schools to be funded directly from taxation appears to be a step the state would not take.[172] In this regard, Bourdieu remarks that

> All authors agree that the progressive development of the recognition of the legitimacy of official taxation is bound up with the rise of a form of nationalism. And indeed, the broad-based collection of taxes has likely contributed to the unification of the territory or, to be more precise, to the construction, both in reality and in representation, of the state as a *unitary territory*, as a reality unified by its submission to the same obligations...[173]

Moreover, the explicit resistance, such as it was, from the Technical Instruction Branch, to abandoning schools that appeared to be successful in their own terms, is evidence of the existence of a fraction of the administrators favourable to technical knowledge, or anxious to preserve a niche.

In addition to the foregoing, the proposed comprehensive curriculum posed a threat to the monopoly over the Intermediate certificate examinations enjoyed by the church secondary schools. In short, the cost to the church of having the vocational schools disbanded may have been the blurring of the divide between those students who were prepared for the Intermediate Certificate examinations and those who were not; in Bourdieu's terms, the right to define the legitimate audience of general education was being contested.

The contest represented by the Senior School initiative having been abandoned, pressure on the vocational schools resumed, drawing on the rhetoric of the Cold War. Other social

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[170] J. Coolahan, *Irish Education*, p. 44.

[171] Memo., par. 32, (S.P.O., S12891), cited in S. O Buachalla, *Education Policy*, p. 265.

[172] There may also have constitutional problems in this regard.

[173] P. Bourdieu, *Practical Reason*, pp. 45 - 46.

initiatives by the state in this period were controversial.[174] The detail of the well-known controversy over the "Mother and Child" scheme are not considered here, but what is of interest are the particularly *pedagogic* grounds on which the Roman Catholic church took exception to the scheme.[175] The Catholic hierarchy protested privately to de Valera in September of 1947 that

> for the State, under the Act, to empower the public authority to provide for the health of all children, and to treat their ailments, and to *educate* women in regard to health, and to provide them with gynaecological services, was directly and entirely contrary to Catholic social *teaching*, the rights of the family, the rights of the Church in *education*, and the rights of the medical profession, and of voluntary institutions.[176]

Bourdieu's analysis of the Roman Catholic church in contemporary France provides an interesting context to the foregoing:

> everything seems to indicate that we are moving toward a *Church without a faithful* whose strength (inseparably political and religious or, as is said in the language of the clerics, "apostolic") rests on the ensemble of posts or jobs it holds.
>
> The change in the economic foundations of the Church's existence, which has taken place gradually, relegates purely symbolic transactions with the laity...to a second plane in relation to transactions with the state which assure the bases of the Church's temporal power, exercised through positions financed by the state, over agents who have to be Christians (Catholics) in order to occupy the positions it controls.
>
> The Church's grip on a set of positions...which...belong as a matter of priority to members of the Catholic community and encourage those who occupy them or who aspire to them to remain Catholic, secures the Church control of a sort of *state clientele* and, therefore, a revenue of material and, in any case, symbolic profits(and this without needing to secure for itself direct ownership of corresponding establishments with an economic dimension).[177]

O Buachalla's analysis of the renewal of criticism of the vocational schools reveals that the growth of this sector and the involvement of local politicians in the Vocational Education Committees ensured that *in political terms*, the sector had its own defenders.[178] Ministers

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[174] See J.J. Lee, *Ireland 1912 - 1985*, pp. 271 - 321.

[175] Ibid., pp. 313 - 22.

[176] F.S.L. Lyons, *Ireland since the Famine* (London, 1973), p. 576, cited in J.J. Lee, *Ireland 1912 - 1985*, p. 315. Emphasis added.

[177] P. Bourdieu, *Practical Reason*, p.125

[178] S. O Buachalla, *Education Policy*, pp. 272 - 273.

were reminded by their officials of the need to "placate simultaneously the Catholic hierarchy and the vocational committees".[179] By this time the Vocational Education Committees had their own *clientele*. A measure of the equilibrium of power relations in this period may be the apparent stability of the ratio of the number of school places in the vocational sector to the number in the secondary sector, calculated in this work as varying between 33 : 100 and 37:100. The ratio of the number of *full-time teachers* in the vocational sector to the number in the secondary sector, is calculated in this work as 25 : 100 in the period 1929 - 1932.[180] Of these 100 full-time secondary teachers, just over one half would be laity.[181] Thus the ratio of the number of *full-time lay teachers* in the vocational sector to the number of *full-time lay teachers* in the secondary sector to the number of *full-time religious teachers* may be estimated as 25 : 50 : 50 in the period 1929 - 1932.

The Council of Education may be situated within the arena of contest under discussion. Its origins lay in the 1943 report of the Commission on Vocational Organisation, which had argued that the education system was state-controlled and that the state might go beyond its legitimate sphere and usurp the right of parents.[182] The Council met, eventually, in May of 1950, with the minister, Mulcahy, envisaging a general review of educational provision.[183] The Catholic hierarchy had sanctioned the Council and "particularly approved of its advisory, non-representative nature and of its having no function in relation to the allocation of public funds".[184] The Council was composed of twenty-nine members, consisting of twenty-six professional educators, eleven clerical and fifteen lay, and three members

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[179] Note from T. Ó Raifeartaigh to the Minister, R. Mulcahy, 5 June 1956 and typescript of 'Address by the Minister at the IVEA Congress', Limerick 12 June 1956, UCD Archives, Mulcahy Papers, P7/C/161, cited in S. O Buachalla, *Education Policy*, p. 272.

[180] Calculated from data in J. Coolahan, *Irish Education*, pp. 102 - 103, and O Buachalla, *Education Policy*, Table 13.4, p. 385.

[181] Throughout the period 1914 to 1966, the ratio of laity to religious in receipt of full-time salaries in secondary schools varied increased from 116:100 to 126:100. By 1978/79, the ratio grew to 355:100. These figures are calculated from data in J. Coolahan, *Irish Education*, p. 70, p. 238, and from S. O'Connor, "Post-Primary Education: Now and in the Future", *Studies* (Autumn, 1968), 233.

[182] S. O Buachalla, *Education Policy*, p. 267.

[183] Ibid., p. 273.

[184] Ibid.

representing rural interests.[185] Parents found no specific representation.

Mulcahy appears to have intended that the Council revisit the issues which had produced the "Senior School" initiative, proposing that "special attention should be given as to whether the type of education considered suitable for those over 12 could be given in primary school and if so what steps should be taken for the provision and training of teachers".[186]

It should be understood that one of the issues to be addressed by the departmental committee which proposed the "Senior School" was the problem of children aged over twelve years who continued to attend the national school.[187] Coolahan records that in 1944, there were 20,800 pupils aged between 14 and 16 years enrolled in national schools; of these, about 4,000 were in 'secondary tops', offering the secondary curriculum.[188] Combining this data with O Buachalla's[189] gives the following tables and pictures *for the 14 - 16 year old cohort* in 1944:

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[185] S. O Buachalla, *Education Policy*, p. 68.

[186] The Council of Education, "Terms of reference and general regulations", (1950), 14 - 15, (S.P.O., S12753 'B'), cited in S. O Buachalla, *Education Policy*, p. 273.

[187] J. Coolahan, *Irish Education*, p. 44.

[188] Ibid.

[189] S. O Buachalla, *Education Policy*, Table 13.2, p. 384.

Table 3.5 Enrolment of 14-16 - year - olds by school in 1944 (% of cohort and number)

Sec.	NS	VEC	Left school
15 %	19 %	7 %	58 %
16 400	20 800	7 400	62 400

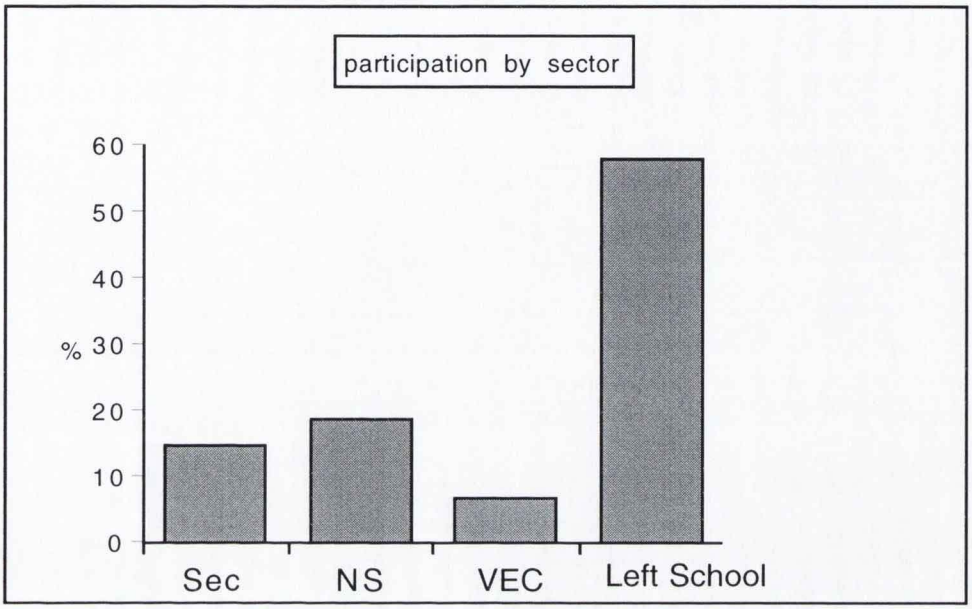

Figure 3.8 Enrolment of 14-16 - year - olds by school in 1944 (% of cohort)

Table 3.6 shows the distribution across curriculum being followed:

Table 3.6 Distribution of 14-16 year olds by curriculum in 1944 (% of cohort and number)

Sec. Curric	NS Curric	VEC Curric	Left school
18.6 %	15.4 %	7 %	58 %
20 400	16 800	7 400	62 400

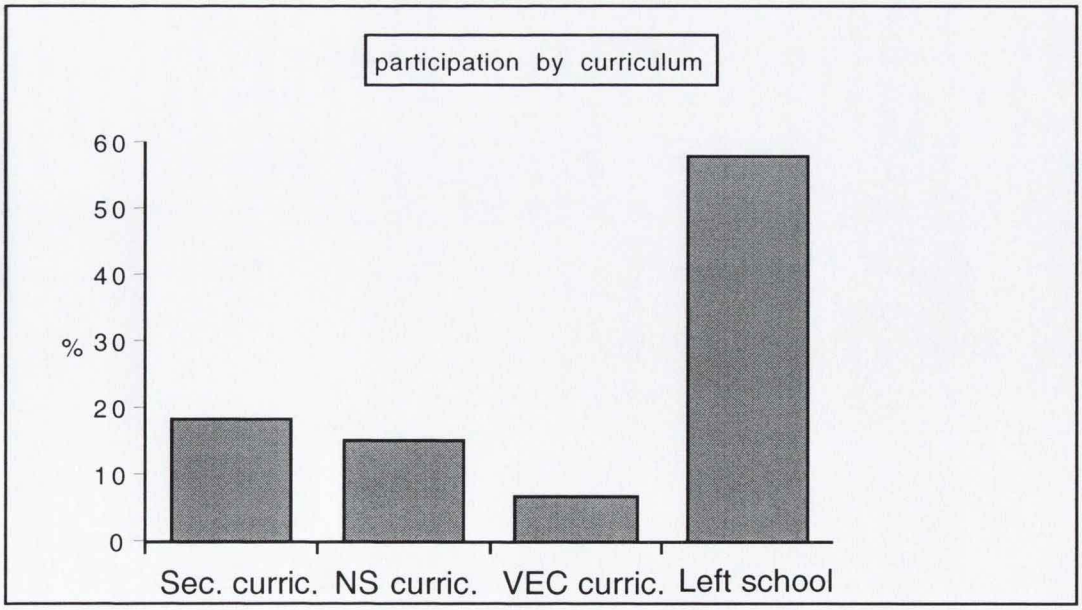

Figure 3.9 Distribution of 14-16 - year - olds by curriculum in 1944 (% of cohort)

Table 3.7 shows the distribution across general education and vocational education:

Table 3.7 Distribution of 14-16 - year - olds between general and vocational education in 1944(% of cohort and number)

Gen. Ed.	Voc. Ed.	Left school
34 %	7 %	58 %
37 200	7 400	62 400

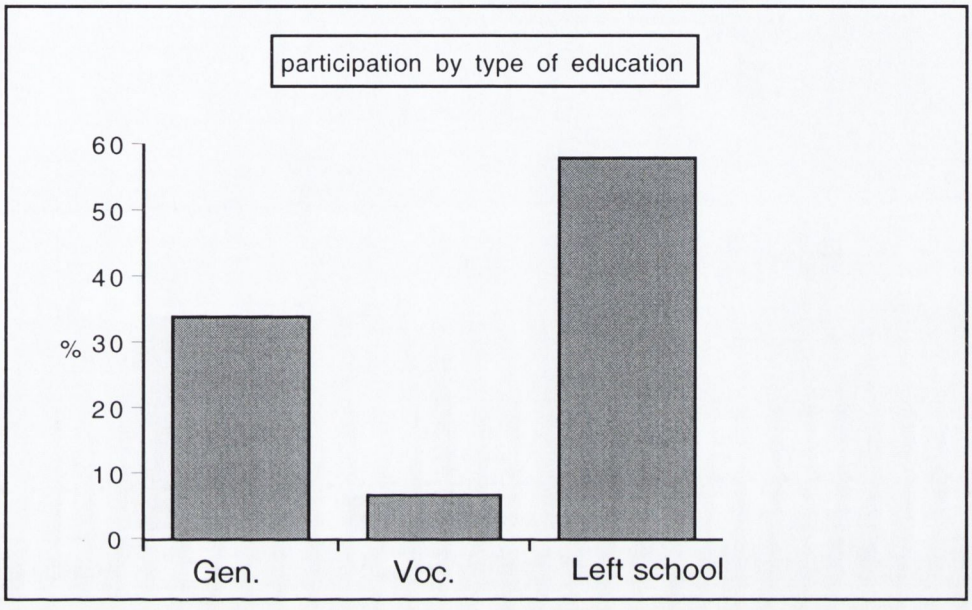

Figure 3.10 Distribution of 14-16 - year - olds between general and vocational education in 1944(% of cohort)

Using the last data, the ratio of children aged 14 - 16 years in schools controlled by the churches to those in vocational schools controlled by the VEC committee is 100 : 21.

Viewing these statistics gives rise to the consideration of what a free, compulsory school system up to the age of sixteen implied. Some 60 000 students would have to be found places in school.[190] If only a third of these 60 000 students proved capable of sitting the Intermediate certificate examinations, this would match the number of students already enrolled in the church secondary schools. The choices the state presented to the Roman Catholic church were all unpalatable. The Senior School would not simply threaten the monopoly of access to certificate examinations, but, as simple arithmetic reveals, might swamp the system. Keeping the students in the national school would impose an enormous financial burden on the religious authorities, determined as they were to keep order in the

[190] Lee's figures for the period 1939 - 45 show that approximately 20 000 people, mostly male, were emigrating each year. Even if some allowance is made for boys in the age-group 14 - 16 years being part of the tide of emigration, the number of school places required must have exceeded 50 000. See also O Buachalla, *Education Policy*, p. 70.

financial burden on the religious authorities, determined as they were to keep order in the educational institution of primary socialisation.

For whatever reason, Mulcahy issued further guidelines to the Council of Education concerning secondary education, indicating that "structural questions", such as those discussed above, were to be avoided.[191] By the time the Council reported, the interesting and contradictory figure of Sean Moylan had been in office, and the building of vocational schools had greatly increased, bringing the ratio of the number of vocational school students to secondary school students up to 42:100, with a ratio of *full-time* teachers of the order 31 : 100.[192] The ratio of the number of *full-time lay teachers* in the vocational sector to the number of *full-time lay teachers* in the secondary sector to the number of *full-time religious teachers* may now be estimated as 31 : 50 : 50 in the period 1960 -61, using an estimate of 50:50 for lay to religious in the secondary school, which tends to under represent the laity at this time. A more accurate estimate is probably 31: 55 : 45.[193]

The Council reported on secondary education in 1960, by which time other trends were beginning to manifest themselves. The Council produced a definition of the purpose of secondary education as the production of the cultivated person, whose characteristics could have been penned by Bourdieu and Passeron.[194] The distinction between technical knowledge and general knowledge is emphasised, *the latter characterised by the effect it produces on others and by an entitlement to a position of authority*: a person possessing such an education would be "popularly regarded as 'educated' - a person of character and knowledge capable of taking a responsible place in the society of which he is a member".[195] There is a good deal of shuffling around before the attributes of woodwork as taught in the secondary school can be distinguished from the use of tools and wood; domestic science is included for girls for obvious reasons, and commerce is included, in desperation, because it was always taught in secondary school, so it must be general

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[191] Dail Debates, 152, 467, cited in O Buachalla, *Education Policy*, p. 273.

[192] See O Buachalla's characterisation of Moylan in O Buachalla, *Education Policy*, pp. 275 - 278.

[193] Using the ratio for 1966-67 of laity to religious of 126:100.

[194] And by no accident either. See the discussion at pp. 148 - 50 and pp. 170 - 171 in P. Bourdieu and J-C Passeron, *Reproduction*.

[195] *Report of the Council of Education: the curriculum of the secondary school*, p. 90.

education. The point here is not that these people were foolish remnants from the nineteenth century, as so much of the literature implies; they were not foolish. The demand for wider access to free secondary education was described as being untenable, utopian, socially and pedagogically undesirable and economically impossible".[196] In 1962, after the report was published, the figures for the age-group 14 - 16 years are

Table 3.8 Enrolment of 14-16 year olds by school in 1962 (% of cohort and number)

Sec.	NS	VEC	Left school
33 %	4.16 %	13.3 %	49 %
55 750	7 035	22 500	83 700

The figures for 1944 are

Table 3.9 Enrolment of 14-16 year olds by school in 1944 (% of cohort and number)

Sec.	NS	VEC	Left school
15 %	19 %	7 %	58 %
16 400	20 800	7 400	62 400

This reveals, perhaps, that the equivalent of the cohort of students in this age group who had stayed on at national school in the earlier period, were now at secondary school, with the 9% reduction in those who had left school distributed between the vocational school and the secondary school, perhaps, say, in the ratio of 2:1. The ratio of the number of vocational school students to secondary school students now stood at 47:100. However, the implementation of compulsory education up to the age of 16 years implied the provision of 83,700 school places. If the 2:1 ratio of distribution stands up, then some 55 800 places in vocational schools and some 27 900 places in secondary schools would be required. This might produce the following distribution:

Table 3.10 Projected Enrolment of 14-16 year olds by school in 1960s (% of cohort and number)

Sec.	NS	VEC	Left school
49 %	4.16 %	46 %	0 %
83 650	7 035	78 300	0

[196] *Report of the Council of Education: the curriculum of the secondary school*, par. 428, cited in O Buachalla, *Education Policy*, p. 68.

The ratio of the number of vocational school students to secondary school students is then 94:100. If the distribution of early leavers favoured the vocational school more than in the ratio of 2:1, the state sector would be larger than the church schools at intermediate level. The implications for senior cycle and university enrolments are to be seen here, if one wishes to think the unthinkable, by means of a little arithmetic. Furthermore, *the number of full-time teachers employed in the vocational schools would now be of the same order as those employed in the church-controlled schools*. The ratio of the number of *full-time lay teachers* in the vocational sector to the number of *full-time lay teachers* in the secondary sector to the number of *full-time religious teachers* may be estimated for such a scenario as 100 : 55 : 45. That is, a lay teacher would be twice as likely to find full-time employment in the vocational school than in the church controlled secondary school. These estimates assume that the church could provide the 50% more religious required to sustain the ratio of lay to religious teachers in secondary schools. Lee remarks that in this period the number of religious in Ireland matched the number on missions abroad, mainly in the territories of the old British Empire.[197] To match the demand estimated here, something of the order of half the religious on the missions abroad would have to be recalled. As discussed below, the hierarchy of the church was already aware that vocations from within Ireland were falling, a trend that could only exacerbate the dilemmas facing the church.Taken within the terms of Bourdieu's analysis of the Roman Catholic church in France, the church in Ireland would be losing its dominant position as an employer of teachers. In this regard, the comments of the Conference of Convent Secondary Schools and the Catholic Headmasters' Association should be recalled.

Another aspect of the Council of Education's "foolishness" is that the members of the council may have been unwitting participants in the transformation of doxa to orthodoxy. The Council was Lucey's idea, but vehemently opposed by Brennan.[198] The clerical members of the Council may have shared in Brennan's state of complete satisfaction with the arrangements in education. Lucey's intention, as remarked earlier, appears to have been to go on the offensive and compete *rationally* for the church's position and promote its own social policies. The Council members may not have understood the purpose of the exercise. Moreover, taken within the terms of the estimates and discussion above, Lucey's remark

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[197] J.J. Lee, *Ireland 1912 - 1985*, p.395.

[198] O Buachalla, *Education Policy in Twentieth Century Ireland*, p. 216.

that

> ...to be Catholic the system must realise the Catholic ideal, and not just approximate very closely to it...whoever controls the educational fare really controls education, since *what is taught is so much more vital than where it is taught or who teaches it*[199]

may have been entirely prophetic, as Lucey may have been applying to Ireland an analysis of social trends which had already come to fruition in other countries of Catholic Europe, especially France. This latter view is entirely consonant with Lee's analysis that in this period "the church could boast a galaxy of performers", and is worthy of further research.[200]

The period from 1957 represents a break, a discontinuity, in events. The 1963 proposal of the Comprehensive School, *built and owned by the state*, and the provision of open access to a new Intermediate certificate programme represents the entry of the state into the market of educational credentials, and *a direct intervention as an employer of teachers*. The state's argument was that such schools would be built only where no post-primary provision existed or where existing secondary schools and vocational schools could not agree to cooperate. Such an argument, in rational terms, was unassailable. Moreover, in providing one school, there would have to be one curriculum for the compulsory period of post-primary education, a curriculum containing a mixture of the general and the technical as demanded by the emerging economic order.

O Buachalla's account of the Roman Catholic church's response to the initiatives of the sixties contrasts evidence of faction and division in that church with the coherence of the response of the Protestant churches, for whom the establishment of larger schools drawing on a wide catchment area was a priority.[201] O Buachalla proposes that "emerging liberating influences abroad in Irish Catholicism", and tensions between the managerial bodies of religious orders and the hierarchy, were responsible for this uncharacteristic display.[202]

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[199] C. Lucey, "Making the school system of Ireland Catholic", in *Irish Ecclesiastical Review*, 1ii, (1938), 405-417, cited in O Buachalla, *Education Policy in Twentieth Century Ireland*. Emphasis added.

[200] J.J. Lee, *Ireland 1912 - 1985*, p.396.

[201] O Buachalla, *Education Policy*, pp. 159 - 162.

[202] Ibid., p. 155.

Bourdieu and Passeron also remark on a particular event of importance in this period, the second Vatican Council.[203] Arguing that the arbitrary nature and legitimacy of implicit pedagogy and the arbitrary nature and legitimacy of general education only become clear in crises, and that the charge of arbitrariness reflects back on the *entire* set of relations between the two, these authors remark:

> There is a clear analogy between the tendency of the reforms applied to most educational institutions and the *aggiornamento* of the Church (simplified liturgy, suppression of ritualised practices, reading of texts facing the congregation, use of the vernacular - all measures designed to 'facilitate a more active participation by the faithful').[204]

Power relations between the religious orders and the hierarchy of the Roman Catholic church are examined in some detail by O Buachalla, who finds evidence for the hypothesis that there are two distinct levels at which policy in education is negotiated between church and state, the more powerful being that level of discussion in which the Cabinet communicates with the Hierarchy - a level that might be well described by Bourdieu's formulation of a "field of power".[205]

One effect of the measures of the period 1960 - 65 is that managerial bodies formed umbrella bodies of increasing inclusiveness, in order to obtain leverage in the new order.[206] The hierarchy intervened on several occasions to reassert its authority in these matters, and a most striking event is recorded by O Buachalla concerning the new comprehensive schools. The managerial bodies representing the religious orders were fearful that the new schools would prove to be more attractive than their own, particularly in rural areas. The orders wished to make representations to the Department of Education demanding to know why the orders had not been asked to make enlarged provision for a broader cohort of children, and the hierarchy was informed of their wish. The reply from the hierarchy was a "revelation." [207] The hierarchy "had been in active consultation with the department on all questions over

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[203] P. Bourdieu and J-C. Passeron, *Reproduction*, n. 3, p. 131.

[204] Ibid.

[205] O Buachalla, *Education Policy,* pp. 155 - 166.

[206] Ibid., p. 162.

[207] Ibid. p. 164.

the two previous years." [208] When the orders approached the Department for detailed policies and plans, "the request was refused and the managerial bodies were left in no doubt...that all these questions had been discussed with the hierarchy." [209] O Buachalla records similar incidents throughout the sixties, culminating in the agreement over the community schools, characterised by O Buachalla as a strategy by the hierarchy to maintain control of these schools through more formal representation on policy-making bodies and through the management structures of the schools, *as the numbers of religious were in decline.*[210]

> The hierarchy and its corporate bodies, it was believed, were far more permanent than some of the religious orders, some of which were already suffering a decline in numbers and influence. The community schools, as introduced and developed in the seventies offer a clear example of the implementation of this strategy.[211]

This strategy would also appear to have secured for the church control of that sort of *state clientele* represented in Bourdieu's analysis by the teachers employed in community schools with a *particular religious ethos*. In fact by 1980, the ratio of the number of *full-time lay teachers* in the vocational sector to the number of *full-time lay teachers* in the *secondary and community school* sector to the number of *full-time religious teachers* in the *secondary and community school* sector may be estimated as 44 : 78 : 12.[212] If the church had not acted as it did, and the state had proceeded to make provision as discussed above, the previous estimate might have applied; that is, the ratio of the number of *full-time lay teachers* in the vocational sector to the number of *full-time lay teachers* in the secondary sector to the number of *full-time religious teachers* may have been 100 : 78 : 12.

The foregoing exercise is perhaps an example of Bourdieu's view

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[208] Ibid. In fact, these plans go back to 1947.

[209] Ibid.

[210] Ibid., p. 166.

[211] Ibid.

[212] Calculated from data in O Buachalla, *Education Policy*, Table 13.4, pp. 385 and using the ratio of laity to religious in receipt of full-time salaries in secondary schools in 1978/79 as 355:100, calculated from data in J. Coolahan, *Irish Education*, p. 70, p. 238.

> that the deepest logic of the social world can be grasped only if one plunges into the particularity of an empirical reality, historically located and dated, but with the objective of constructing it as a "special case of the possible," as Bachelard puts it, that is, as an exemplary case in a finite world of possible configurations.....the aim is to try to grasp the invariant, the structure in each variable observed.[213]

This is said to promote a rupture with the 'givenness' of the present:

> ...there is no more potent tool for rupture than the reconstruction of genesis: by bringing back into view the conflicts and confrontations of the early beginnings and therefore all the discarded possibles, it retrieves the possibility that things could have been (and still could be) otherwise. And, through such a practical utopia, it questions the "possible" which, among all others, was actualised.[214]

The "possible" which was actualised in Ireland may be characterised, in summary, in the terms that follow.

A consensus on educational matters between the British administration in Ireland and the churches was disrupted by the advent of Irish independence in 1921. The old consensus between the parties was centred on the provision of general education, vocational education being considered to be a matter for which provision was to be made by the state.

A variety of difficulties disturbed the establishment of a new consensus in the new state in the period from 1921 to the 1960s. The growth in demand for vocational education and the growth in provision for such education by the state, financed by local and national taxation was one major difficulty. The inability of the Roman Catholic church to continue to supply personnel to teach in and manage the schools it owned at the levels which had existed previously, and, *a fortiori*, an inability to manage a completely denominational school system catering for the entire cohort of Roman Catholic children aged up to fourteen years was another major difficulty.

The traditional curriculum of the secondary school, 'general education', differed from the rational curriculum of the vocational school, 'vocational education'. While gender distinctions in curricular provision and regulations can be found in both general and

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[213] P. Bourdieu, *Practical Reason*, ibid., p. 2. The quote, in translation, is from G. Bachelard, *Le rationalism appliqué* (Paris: Presses Universitaires de France, 1949).

[214] Ibid., p. 40.

vocational education, it appears that one aim of general education (preparing students for university study) provoked a measure of dissatisfaction from the convent secondary schools on the grounds of its irrelevance to the majority of girls in secondary education, *given the expected nature of the lives these girls would lead*. This irrelevance was clearly in contrast to the *relevance* of the education provided in the vocational schools; a realisation which led to the proposal to provide *relevant* education within the one school, though in separate buildings; separate on the basis of providing a *relevant general education for the future wives and mothers of the middle-classes*, as opposed to providing a vocational education intended for future employees.[215]

The terms of appointment (and the terms of employment) of teachers constituted a further difference between the general education and the vocational education system. This difference may be interpreted at a variety of levels: the licence to teach (*licentia docendi*) may be given by an authority on rational grounds (possession of credentialised knowledge) or on the grounds of *ethos* (being a suitable person). To appoint persons to paid employment as teachers on these grounds would appear to promote or reward the possession of certain forms of knowledge or of certain ethical dispositions.[216] The resolution of these differing principles would appear to pose a large obstacle to the emergence of a new and lasting consensus. It appears that the most powerful decision making levels of the Roman Catholic church moved from contesting the *licentia docendi* of the state in areas such as education and of health to seeking an accommodation with the state. Viewed from another angle, this transition may be seen as a change of role for the church from autonomous employer of teachers to sub-contractor on behalf of the state.

3.8 Church and State: Educating the Elite and Educating the Nation

A consistent feature of educational history in Ireland in the modern period has been the ability of the Roman Catholic church to contest control and influence over schooling with state authorities. The previous section has highlighted the disequilibrium in church-state

[215] An interesting question here is the extent of the dissatisfaction with the academic curriculum expressed by boys' secondary schools.

[216] This is not to say that persons did not possess both. This opposition is an opposition of extremes or limiting cases.

relations which followed Irish independence in 1921 and the eventual emergence of moves towards a new consensus. The role of nationalism as a factor in this historical process has not been evaluated in this work. Attention now turns to these matters.

The degree of public valuation of the knowledge offered in the vocational school is reflected in the regard and credentials such knowledge attracted over time. The change has been significant. Initially, the Gaelic League had argued for a "larger provision" for general and cultural education. The Irish Technical Education Association had sought the introduction of religion and Gaeilge into the programme of the vocational school before it sought a public credential for that programme, in the form of the Group Certificate. Until the *Apprenticeship Act of 1960*, the standing of the Group Certificate as an educational credential does not appear to have been institutionally recognised.

Consideration of the cycle of events, from the lobbying of the Gaelic League to the publication of the *Apprenticeship Act*, and events thereafter, suggest the existence of differences between the Roman Catholic Church, on the one hand, and the State, on the other, as to the nature and extent of education each Roman Catholic person needed, in the first case, and each *citizen of the nation* needed, in the second. This, in turn, may represent different understandings of what sort of society Ireland was, or was becoming. Far from being accidental, Gellner, in his interesting view of the relationship between nationalism and education, sees the emergence of these differences as being entirely predictable.[217]

In Gellner's view, a complex, well-developed agrarian society "wills itself to be stable", while industrial society "wills itself to be mobile"; such willing having an element of pretence:

> one of them pretends to be more stable than social reality permits, while the other often claims more mobility, in the interests of pretending to satisfy its egalitarian ideal, than its real constraints actually permit.[218]

Preindustrial, agrarian society is one in which, for Gellner

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[217] E. Gellner, *Nations and Nationalism* (Oxford: Blackwell, 1983).

[218] Ibid., p. 25.

> a minority of the population receives specialised training. The society will contain one or more strata of full-time educators, who both reproduce themselves by taking on apprentices, and perform part-time services for the rest of the community: ritual, therapeutic, admonitory, secretarial, and so on.[219]

This process of "acculturation", rather than education, whereby the "clerks reproduce their own guild by training entrants and part of the wider community", is transformed by the development of industrial society which

> turns *everyone* into a cleric, by turning this potentially universal class into an effectively universal one, by ensuring that everyone without exception is taught by it, that *exo-education* becomes the universal norm...modern society is one in which no sub-community, below the size of one capable of sustaining an independent educational system, can any longer reproduce itself.[220]

The necessity for the *whole* of society to be pervaded by a *high culture* is, for Gellner, a defining characteristic of industrial society, and is the origin of the necessity that a polity sustain such a project. The magnitude of the task is such that only a nation state can tackle it.[221]

Bourdieu comments, in this regard, that

> It is especially through the school, with the generalisation of elementary education in the nineteenth century, that the unifying action of the state is exercised in matters of culture. (This is a fundamental component in the construction of the nation-state). The creation of national society goes hand in hand with universal educability: the fact that all individuals are equal before the law gives the state the duty of turning them into citizens, endowed with the cultural means actively to exercise their civic rights.)[222]

The *necessary* character of this entire transformation is based, in Gellner's view, upon the relationship between the political legitimacy of industrial states and economic growth. Such growth, and the associated concept and ideal of "progress", permits the state to buy off

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[219] Ibid., p. 31.

[220] Ibid., p. 32.

[221] Ibid., p. 18.

[222] P. Bourdieu, *Practical Reason*, n. 16, p. 62.

dissent. This is "the favoured mode of social control", the "universal Danegeld".[223]

Lee's work has revealed that Ireland, in 1921, was a "relatively modernised society".[224]

> Among eastern European states, only Czechoslovakia, with 40%, had a lower population of its active population in agriculture than the Free State in 1921.[225]

Moreover, as Coolahan argues, "Ireland, which had a long-established tradition of British government financial support for various education agencies, got a state-supported primary school system under the control of a state board of commissioners in 1831".[226] The *Intermediate Education Act* of 1878 "permitted the state to give indirect funding to denominational secondary schools".[227] The state provided funding for denominational (primary) teacher training colleges in 1883[228]. These measures additionally strengthened the role of the churches as an employer.

By way of contrast, secondary teaching remained very much an amateur and unattractive occupation in the nineteenth century, with many of the assistant teachers being "clerics, ex-clerics, or laymen from varying backgrounds".[229] However, as Coolahan's review of the history of secondary education from the nineteenth century to the modern period (1950s) clearly shows, increasing amounts of state funds (in the form of capitation fees) were directed towards a system of schooling which remained resolutely traditional in character.[230] Such secondary schooling

> was not viewed as a means of achieving greater social equality; rather the poor and the working classes were largely seen by leaders of church and state as a self-perpetuating sector of society for whom a limited education in literacy and numeracy

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[223] Ibid., p. 22.

[224] J. J. Lee, *Ireland, 1912 - 1985*, p. 69.

[225] Ibid., p. 71. The figure for the Free State is estimated at 50%.

[226] Coolahan, *Irish Education*, p. 4.

[227] Ibid., p. 53.

[228] Ibid., p. 6.

[229] Ibid., p. 54.

[230] Ibid., pp. 52 - 82.

was deemed sufficient.[231]

Moreover,

> the vast majority of the schools were single-sex schools. The schools tended to be run on very formal lines, boarding schools in particular. Many boarding schools, under the control of religious authorities, were isolated from the life of the wider community, with routines of schoolroom, study, prayer and recreation plotted with the order of an enclosed community, punctuated by holidays and annual open days.[232]

The application of Gellner's analysis to the Irish experience raises some interesting issues. If the industrial stagnation and emigration of the period the 1930s to the 1950s denied the state the political legitimacy that economic growth brings to industrial states, then legitimacy would have to be found elsewhere; perhaps by making a virtue of necessity and celebrating the stability of a traditional, agrarian Ireland? If so, there would be no rhetoric of progress, social mobility, or equality of educational opportunity, and older, preexisting mechanisms of social control would persist.

It might be expected that when economic expansion and industrialisation did begin, that some evidence of industrial rhetoric might appear in educational policy. However, of five interdependent characteristics of the post-war expansion of post-primary education, Barber found only one, the *economic*, appearing in the first phases of the Irish experience.[233] The other characteristics (the institutional, the social, the curricular, and the philosophical) were found to be absent in Ireland. This outcome would appear to be typical of societies which are attracted to the wealth industrialisation promises, but wish, at the same time, to remain unchanged in every other aspect, with industrialisation intended to have a purely *local* effect. Barber identifies the five characteristics of the post-war expansion of post-primary education in *industrial* Europe as *interdependent*, indicating that post-war expansionism was not the sort of phenomenon whose impact could be contained to discrete areas of social life. The absence of these interdependent characteristics in Irish educational policy of this period may indicate that either it was believed that the impact of industrialisation could be localised, or that it could not; but if the latter, it was politically impossible to say so. Gellner

[231] Ibid., p. 55.

[232] Ibid., p. 80.

[233] Noel Barber S.J., *Comprehensive Schooling in Ireland*, p. 49.

analyses the pervasive nature of industrial culture by means of a contrast between what he terms *local* and *universal* culture.

The characterisation of a *local culture*, for Gellner, begins with the terms of its form of communication, whose meaning "can only be identified *in context*, in contrast to the relatively context-free scholasticism of the scribes".[234] The old agrarian worlds were

> each of them a cosmos: purposive, hierarchical, 'meaningful'; and on the other hand, not quite unified, consisting of subworlds each with its own idiom and logic, not subsumable under a single overall ordliness.[235]

By contrast, the "new world was on the one hand morally inert, and on the other, unitary".[236]

One consequence of the transition from the old world to the new is that the division of labour takes on a different character. The issue here is not the far greater extent of the division of labour in industrial society, but that "the distance between specialists is far less great", whereas in the older world, the division was more complex, and "the important minority of specialists...are outstandingly complementary to each other".[237] The unitary character of underlying knowledge ensures that the mysteries of the modern specialists are

> far closer to mutual intelligibility, their manuals have idioms which overlap to a much greater extent, and retraining, though sometimes difficult, is not generally an awesome task.[238]

This overlap arises from the *generic* character of training claimed by Gellner to exist in industrial societies, a feature of an educational system claimed to be the least specialised and most universally standardised in human history:

> The same kind of training or education is given to all or most children and

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[234] E. Gellner, *Nations and Nationalism* (Oxford: Blackwell, 1983), p. 12.

[235] Ibid., p. 23.

[236] Ibid.

[237] Ibid., pp. 26 - 27.

[238] Ibid.

> adolescents up to an astonishingly late age. Specialised schools have prestige only at the end of the educational process, if they constitute a kind of completion of a prolonged previous unspecialised education; specialised schools intended for a younger, earlier intake have negative prestige.[239]

Generic skills are broadly defined as "literacy, numeracy, basic work habits and social skills, familiarity with basic technical and social skills", and are intended to be acquired and internalised by students as the "basic idiom, ritual and skills" common to industrial society.[240] The notion of generic skills is based upon a modern conception of work, not as the manipulation of things, but the manipulation of meanings and of people.[241]

> It generally involves exchanging communications with other people, or manipulating the controls of a machine. Most jobs, if not actually involving 'work with people', involve the control of buttons or switches or levers which need to be *understood* and are *explicable*, once again, in some standard idiom intelligible to all comers....Explicit and reasonably precise communication becomes generally, pervasively used and important.[242]

Characteristic of such communication is that *it may be with people one does not know*, a feature which emphasises the importance that such communication should not have the character of local communication, in which "context, tone, gesture, personality and situation" are everything.[243] Explicitness is everything when communication is not local; explicitness is pedantic and offensive when it is.[244]

Justifying the objectives of the curriculum by more than a call to tradition, as with the Council of Education, requires more than that the activity is carried out in good faith. The idea that education is causally linked to economic growth offers a powerful justifying principle and is an indication that the curriculum is not a *local* form of culture, but

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[239] Ibid., p. 27.

[240] Ibid.

[241] Ibid., pp. 32 - 33.

[242] Ibid., p. 33.

[243] Ibid.

[244] Ibid.

participates in a universal form of industrial culture.[245]

The change in view of education as a consumer service, to education as an economic investment and instrument of development of technical skills in the workforce, brings education much more into the area of public policy. This move provides the state's interventions with a greater legitimacy, and also offers the possibility of providing a criterion for the efficiency, in these terms, of the educational system. It also makes it more difficult to maintain the distinction between an education that, it is claimed, *develops and enriches some human persons*, and one which is aimed at all human persons, when the latter is perceived to contribute to *national development*, and to the benefit of all. As Gellner argues, among the greatest consequences of industrialisation is that

> culture is no longer merely the adornment, confirmation, and legitimation of a social order which was also sustained by harsher and coercive constraints; culture is now the necessary shared medium, the life-blood or perhaps rather the minimal shared atmosphere, within which alone the members of the society can breathe and survive and produce. For a given society, it must be one in which they can *all* breathe and speak and produce; so it must be the *same* culture.[246]

Bourdieu comments that

> By universally imposing and inculcating (within the limits of its authority) a dominant culture thus constituted as *legitimate national* culture, the school system, through the teaching of history (and especially the history of literature), inculcates the foundations of a true "civic religion" and more precisely, the fundamental presuppositions of the national self-image.[247]

The great religions with a high literate culture, the "shadow-states" from a time when states were not merely fragmented but socially weak, retain control of education in the nationalist period only when they "fight on behalf of an inclusive high culture and thereby indirectly on behalf of a new nationalist state'.[248]

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[245] That there are other justifying principles is a matter for debate. The cause of mathematics as an element in the curriculum benefits greatly from the dominant, apparently irresistible industrial principle.

[246] E. Gellner, *Nations and Nationalism*, p. 38.

[247] P. Bourdieu, *Practical Reason*, p. 46.

[248] E. Gellner, *Nations and Nationalism*, p. 38.

The Roman Catholic church in Ireland would appear to satisfy this last condition in part, in its willingness to include Gaeilge and other cultural forms and traditions in the mass school, the national school; and in the elite school, the secondary school. The character ("the medium and emblem of the nation") of the nationalist state was both Roman Catholic and Gaelic. However, the educational provision made by the church itself cannot be said to be *inclusive* at the post-primary level, a verdict equally applying to the church's opposition to a state-funded system of vocational education. It might be argued that the church failed to understand what industrialisation represented, or fearing it, opposed it, by a willing of the nation to be stratified and stable. Vocationalism and the Council of Education might be seen as the ideological expression of such a programme, set against an historical background of industrial stagnation. When industrialisation came, such ideological expression might be challenged or simply dismissed.[249] In the interim, the issue of wide access to free secondary education was dismissed as "untenable, utopian, and economically impossible".[250] In Gellner's view, such a failure to be inclusive would attract political penalties:

> If some part of the education system, by default or from surreptitious design, actually produces internal cultural differences and thereby permits or encourages discrimination, this is counted as something of a scandal.[251]

The period from 1957 to 1966 seems particularly amenable to the analysis set out above. The publication of *Economic Investment* in 1957 marks the introduction of the *economic and industrial* principle into public discourse about education. Such discourse is rational in character but egalitarian objectives are absent. The discourse surrounding Donagh O'Malley's free education scheme of 1966 is, however, characterised by a new note. The minister is "keenly aware of the fate of those, 17 000 in number, who never transferred from primary to post-primary, whose formal education ended at 14".[252] The minister

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[249] The latter course seems to have taken by contemporary historians. Coolahan sees the Council's report as "disappointing", comparing it unfavourably with the "more analytical and dynamic thinking" which found expression in *Economic Development*, (*Irish Education*, p. 81), while O Buachalla finds the Council's reports to be characterised by "sterility and irrelevance", (O Buachalla, *Education Policy*, p. 68).

[250] *Report of the council of education, the curriculum of the secondary school*, Op. cit., par. 428, cited in O Buachalla, p.68.

[251] E. Gellner, *Nations and Nationalism*, p. 64.

[252] O Buachalla, *Education Policy*, p. 285.

committed himself to removing that "dark stain on the national conscience".[253] In February of 1967, secondary education was described as complacent, not suitable for everyone, yet serving an ever-increasing clientele.[254] While recognising that the state had largely escaped the burden of providing school accommodation, the major disadvantage of such an arrangement was

> If we were entirely dependent on private schools, the essence of which is the right to accept or reject any particular pupil, the state could not guarantee to all children the right of access to postprimary education. A system for all but from which even one child could be arbitrarily locked out, could not be accepted by me, for with such a system we would not be cherishing all the children of the nation, not to mention cherishing them equally.[255]

Lee sees the significance of the policy initiatives of this period as shifting "the balance of power in the administration of education between the traditionally hegemonic Catholic Church and the state".[256] In Bourdieu's terms, this shift may mark the beginning of secularisation and a new role for the churches as an employer of a state clientele.

In summary, Gellner's theory of nationalism has been introduced in this section as a further explanatory term. The relationship between nationalism and industrialisation has been portrayed as one in which nationalism provides a mechanism to transform local forms of knowledge into universal forms through the creation of a national monoculture. It has been claimed that the period of Irish history from 1957 to 1966 is amenable to an analysis in which the gathering momentum of a late industrialisation begins to find expression in demands for change in the education system - that is, rational, but not apparently ideological demands, and in an intermittent republican rhetoric surrounding the fiftieth anniversary of the Easter Rising of 1966. Previous sections of this work have characterised historical change in the education system within the terms of the formation of a new consensus in church-state relations following upon national independence. A question arises here: *What is the relationship between the creation of a national industrial monoculture and the*

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[253] Statement by D. O'Malley, Minister of Education, Dún Laoghaire 10 Sept 1966, cited in O Buachalla, *Education Policy*, n.177, p. 423.

[254] "Free Education and After?", an address by D. O'Malley at Clontarf, 16 Feb, 1967, 3, cited in O Buachalla, *Education Policy*, n.178, p. 423.

[255] Ibid, 6, cited in O Buachalla, *Education Policy*, n.180, p. 423.

[256] Lee, *Ireland 1912-1985*, p.362.

creation of a new consensus in church-state relations?

As a step in approaching this interesting question, an examination of consensus-forming in the period from the 1960s to the present is required.

3.9 Economy, Church, State

O Buachalla identifies the period from 1922 to the early sixties as one in which the dominant position of the Roman Catholic church produced

> an endemic reluctance by the state to take any initiative, a disinterest among lay public and politicians, a low level of professional autonomy within the system, and an overall complacency which was oblivious of the social and geographical inequalities characterising it.[257]

The sixties are characterised by

> the emergence of a more elaborate structure among the interest groups in education which facilitated a more extensive consultation process; this in turn reflected a more sophisticated approach to policy within the Department of Education.[258]

Lee identifies the origin of this consensual mood in Lemass's attempt to create a new national consciousness.[259] Under the banner of 'national planning', the Irish National Productivity Committee (1959), the Employer-Labour Conference (1961), the Committees on Industrial Organisation (1961), and the National Industrial and Economic Council (1963), were established.[260]

O Buachalla finds the principal interest groups in education to be teachers, managers, politicians, churches and the state apparatus: each having the capacity to place policy issues on the agenda for discussion.[261] O Buachalla does not mention the universities as a principal

[257] O Buachalla, *Education Policy*, p. 323.

[258] Ibid., p.325.

[259] Lee, *Ireland 1912-1985*, p. 401.

[260] Ibid.

[261] O Buachalla, *Education Policy*, p. 334.

interest group. However, O Buachalla distinguishes between "lower level issues", such as resource allocation, curricular issues and working conditions, and "higher level issues", of which the direct or implied consequence is a modification of the structural *status quo*.[262] Following from this, there are said to be two separate consultative processes: teachers, managers and the state confronted the lower level issues, whereas consultation on the higher level was usually confined to the churches and the state.[263]

Lee remarks that a consensus of interest groups may be a consensus of predators or of patriots.[264] In the Irish context, Lee sees these possibilities expressed as an opposition between two principles he describes as the *possessor principle* and the *performer principle*.[265] Another expression of this opposition given by Lee includes a characterisation of de Valera *versus* Lemass, given in terms reminiscent of Gellner's opposition of the will to stability to the will to mobility:

> One can envisage de Valera in his element as a village head man, presiding sagely over a council of elders resolving petty disputes with the wisdom of the ages. De Valera's world was timeless. Nothing would ever change. But Lemass needed space. Ireland was suffocating. It was both too advanced and not advanced enough. It did not offer the green field of an under-developed society, where old moulds could be pulverised, nor yet did it throb with the dynamic impulse of an advanced industrial society where the performer ethic was in the ascendant.[266]

This archetypical paralysis is situated by Lee in Lemass's failure

> to solve the problem that had baffled him since 1932 - how to create a viable *Irish* industry. By the mid-sixties, the continuing failure of Irish-owned industry on the export front, despite all the incentives, was becoming grimly clear. Only the success of foreign investment was now energising the export drive. The hope that foreign example would inspire native emulation was proving vain.[267]

The use of decisive action to break paralysis is exemplified for Lee by O'Malley's free

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[262] Ibid.

[263] Ibid.

[264] Lee, *Ireland 1912-1985*, p. 402.

[265] Ibid., *passim*.

[266] Ibid., p. 406.

[267] Ibid., p. 403.

education scheme, announced "reputedly with the prior approval of Lemass but without having consulted the cabinet or Finance", and then "swept along on the tide of public enthusiasm".[268] However, Lee seems to support the subsequent judgment of Séan O'Connor, an Assistant Secretary of the Department of Education at that time, that the initiative was not followed up with adequate resources for the schools, and that the impetus went out of the commitment to education with the resignation of Lemass in 1966 and the death of O'Malley in 1968.[269]

The period that followed could thus be characterised by the contradiction between the dynamic unleashed by the free education initiative and the advent of faltering economic development. As discussed above, Barber characterises this period as one of faltering official purpose; deepening clerical reaction; inadequate curriculum theory; and persisting values about academic and practical knowledge, reinforced by the university.[270] Drudy and Lynch might subscribe to the "consensus of predators" model of consensual bodies in this period, given their analysis of the role of what they term "educational mediators".[271] In this view, the class, power, and status interests of mediating groups are often bound up with the educational status quo; furthermore, consensus provides a mechanism to regulate conflict between the players.[272]

The accommodation between church and state represented by the establishment of the community schools seems to have permitted a general movement of curricular change dated by Lynch as beginning in 1971, as a result of changes in government policy.[273] These events seem consonant with O Buachalla's model of a high level consultative process and a low level one. Lynch detects a clear and emerging differentiation between the junior and senior cycles, the former characterised by an extension of subject options in the arts, humanities

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[268] Ibid., p. 362.

[269] Séan O'Connor's interview with Christina Murphy, "How O'Malley launched free scheme", *Irish Times*, 10 September 1986, cited in Lee, *Ireland 1912-1985*, pp. 362-3.

[270] Noel Barber S.J., *Comprehensive Schooling in Ireland*, p. 102.

[271] S. Drudy and K. Lynch, *Schools and Society*, p. 121. The principal educational mediators are said to be the churches, the teachers' unions, the vocational education committees, and parents' organisations.

[272] Ibid., p. 127.

[273] Kathleen Lynch, *The Hidden Curriculum* (Lewes: Falmer, 1989), p. 56.

and languages, the latter by what is termed "technicalisation" - a trend towards a more technological, scientific and commercial-type curriculum.[274]

Agencies were established in this period to effect change in the curriculum. A *Curriculum Council* was proposed in the White Paper of 1980.[275] The *Curriculum and Examinations Board* (CEB) was established in 1984 by the Fine Gael/Labour Coalition Government and disbanded by an incoming Fianna Fail administration, which in 1987 established the *National Council for Curriculum and Assessment* (NCCA).[276] Responsibility for producing courses of study shifted from informal, advisory committees established by the Inspectorate of the Department of Education for each subject, for each cycle, to formally constituted syllabus committees reporting to an executive committee of the CEB (subsequently the NCCA), which, in turn, advised the Minister.[277]

3.10 The National Education Convention

The acme of self-conscious consensus in education may be *The National Education Convention* which took place from the 11th to the 21st October, 1993:

> ...an unprecedented, democratic event in the history of Irish education. It brought together representatives from forty two organisations - educational bodies, the social partners and the Department of Education - to engage in structured and sustained discussion on key issues of educational policy in Ireland. The Convention was a very significant dimension of the wide-ranging consultative process on the Green Paper, *Education For A Changing World*, published in June 1992, and on the *Programme For A Partnership Government*, of January 1993.[278]

Whether the Convention represents a consensus of predators or of patriots, or a mechanism to regulate conflict over the class, power, and status interests of the educational mediators is not at issue here; what is of significance is that the dynamic economic backdrop

[274] Ibid., pp.52-53; S. Drudy and K. Lynch, *Schools and Society in Ireland*, p. 217.

[275] John Coolahan, *Irish Education - History and Structure*, p. 197.

[276] Kathleen Lynch, *The Hidden Curriculum*, p. 66.

[277] Oldham, "Mathematics in the Senior Cycle: The New Leaving Certificate Courses", p. 3, D. G. Mulcahy, *Curriculum and Policy in Irish Post-Primary Education*, p. 50.

[278] Introduction, in *Report on The National Education Convention* (Dublin: The National Education Convention Secretariat, 1994), p. 1.

to this event seems to have been that desired by Lemass thirty years earlier.[279] A paradox lies in the fact that economic expansion had taken place on the basis of the IDA strategy of attracting foreign firms to manufacture in Ireland. As the Background Paper to the The National Education Convention Report remarks

> Education is, perhaps, Ireland's most important resource. It is fully under Irish control[280]

perhaps indicating the belief that little else is. Moreover, with a nod, perhaps, in the direction of a neighbouring island, the interesting claim is made that

> ...the approach taken to educational change in Ireland is very different from that prevailing in some other countries. Here the keynote is consultation and partnership, as distinct from rule by dictat or prescriptive imposition.[281]

The need for an alternative to then current provision at the Leaving Certificate was "universally accepted" at the Convention, though lack of information on the precise nature of the proposed Leaving Certificate Applied Programme (LCAP) "created problems".[282] Moreover

> There was a general approval for keeping the applied programme under the general umbrella of the Leaving Certificate, however, a number of problems were anticipated. Would the L.C.A.P. be perceived as having low status in schools? What prospects awaited students on completion of the programme? The NCCA has ruled out the possibility of university matriculation on the basis of this form of the Leaving Certificate. This seems to assign an inferior status to the certificate. Again, we can ask what effect the Applied Certificate will have on the ordinary level Leaving Certificate? How can it be provided as an option in anything but very large schools? These are all issues which need to be kept in mind in the design and implementation of the applied option.[283]

Other advantages and disadvantages are set out:

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[279] That the government of the time was a coalition composed of the Fine Gael, Labour, and Democratic Left parties, and not Fianna Fail, is something of an irony.

[280] John Coolahan, Background Paper, in *Report on The National Education Convention*, p. 144.

[281] *Report on The National Education Convention*, p. 8.

[282] Ibid., p. 76.

[283] Ibid.

> The introduction of the L.C.A.P. will do much to counter criticisms made of Vocational Preparation and Training Programmes which it will replace. For one thing, since the course will not lead to formal vocational qualifications and the course's certificands may only progress to limited courses of post-secondary education, there is a distinct danger that it will be seen as a "soft-option" track and of limited value by students unless it is carefully planned and designed to respond to student needs. Continual review of the operation of the programme will be essential if this situation is to be avoided.[284]

The report prepared by the secretariat of the Convention is said not to give "significant attention" to vocational training.[285] As the secretariat "paid particular attention to areas where divergent views seemed to exist within mainstream education", it may be assumed that the invitation to consult the NESC publication, *Education and Training Policies For Economic and Social Development*, indicates that there was consensus at the Convention on that publication's recommendations.[286]

The secretariat which prepared the Convention report consisted of

A Professor of Education (Secretary General)
A Lecturer in Irish in a teacher training college
A Lecturer in Education in a university
A Director of Educational Research based in a teacher training college
A Lecturer in Education in a university
A Professor of Sociology of Education
A Research Professor from the ESRI

indicating a significant input from the universities and teacher training colleges. By contrast, Lee cites Coolahan's view that during the major educational changes of the 1960s, these two institutions

> 'grew apart from one another', despite the fact that they shared a common approach to the study of education, 'unimaginative, instrumental and intellectually shallow'. University staff in education did little to encourage research on the role of education in society. 'No books which dealt with wider aspects of education' were published in Ireland between 1922 and 1962'.[287]

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[284] Ibid.

[285] Introduction, in *Report on The National Education Convention*, p. 4.

[286] National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, No. 95. This report is reviewed at length later in this work.

[287] Coolahan,"The fortunes of education as a subject of study and of research in Ireland", *Irish Educational Studies*, 4, I (1984), 15, cited in Lee, *Ireland 1912-1985*, p. 586.

Moreover,

> It was symptomatic that at an unusually exciting period in Irish educational history, the chairs of education were left vacant, in UCD from 1950 to 1966, in UCC from 1962 to 1969, and in Maynooth from 1956 to 1966.[288]

The role played by the Secretariat in the Convention is described as analysing a comprehensive range of documentation submitted to the Department of Education in response to the Green Paper, preparing a Background Paper and associated material, questioning participants who made presentations, and preparing the Report of the Convention.[289] The Secretariat was conscious that it was "not a policy-making body" and its role "purely one of assistance, and it has approached its work in that spirit, towards all involved parties".[290] This task is further described as an attempt to report succinctly on the presentations, debates and discussion sessions of the Convention, and "to analyse, interpret and contextualise the perspectives put forward".[291] The Report

> aims to lead the debate forward, to make some recommendations and to pose options for policy. The document is oriented towards issues and policies. As far as possible, it seeks to remain true to the content and spirit of the National Education Convention's deliberations. Where it is conscious that a recommendation may not have emerged from deliberations at the Convention, the Secretariat signals that this is a view of the Secretariat itself.[292]

Something of the flavour of the Secretariat's own consensus may be detected in the manner with which it analyses, interprets and contextualises the perspectives put forward by the "Patrons, Trustees and owners" in Irish educational provision - that is, the religious authorities.[293] These authorities, and indeed

> other ethically or culturally motivated groups such as the multi-denominational schools or Gaelscoileanna, who set up and operate schools, do so because they wish to ensure that certain fundamental beliefs, values and culturally valuable practices are

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[288] Ibid, 217.

[289] Introduction, in *Report on The National Education Convention*, p. 2.

[290] Ibid, p.3.

[291] Ibid., p. 4.

[292] Ibid.

[293] *Report on The National Education Convention*, p. 24.

effectively taught and learned/internalised within the schools they set up.[294]

This perspective might be instructively compared with that of the minister for education, Mulcahy, speaking of the Council of Education in June 1948:

> what is wanted is a Council which will recognise and proclaim the Catholic philosophy upon which our Irish system is based, the right of parents, the church, the state.[295]

An explicit intervention is made by the Secretariat concerning the view put forward at the Convention by the religious authorities that in the face of proposals in the Green Paper on the composition of school boards, "they needed to appoint majorities on the (school) board and nominate the Chairperson so as to protect the religious ethos and social mission of their schools".[296] Presumably, this pertains to issues such as the admission of pupils, the appointment of teachers, and the transmission of religious values. The Secretariat comments:

> The issue of school ethos is a pervasive one in the debate on school governance. The debate could benefit from a detailed analysis and exposition of the concept of ethos, and what it entails. In discussion at the Convention the Secretariat indicated its unease at a view of ethos as being "determined by Trustees," and seen as something which could be handed on, as it were, to a school community and be "guaranteed" to operate.[297]

The demand here is that the implicit be made explicit. The perspective from which the differing participants are viewed is elevated, rational, and objective. The religious authorities are now objectivised, rather than providing the objectivizing viewpoint evident in the Council of Education, revealing an interesting exchange of roles between the religious authorities and the universities.

Given that "our Irish system" is no longer to be based on "Catholic philosophy" as a result of the contemporary plurality of "ethically or culturally motivated groups", a good deal of

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[294] Ibid.

[295] *Annual Report, CCCS,* 1948, 35, cited in O Buachalla, *Education Policy*, p. 273.

[296] *Report on The National Education Convention*, pp. 26-27.

[297] Ibid., p. 27.

discussion at the Convention seems to have centred on agreeing a common philosophical perspective, or rather, agreeing which perspective all were against.[298] There was "extensive criticism" of the lack of an adequate philosophy of education in the *Green Paper*, which is seen to have given an "over-emphasis to utilitarian and commercial concerns".[299] The Secretariat record a consensus formed around the concern

> to enable each pupil to appropriate from moral and spiritual tradition, and from the plenitude of human learning, something of an abiding and sustaining sense of identity, amid the ubiquity of change in contemporary society.[300]

The particular objection to the Green Paper, in this regard, was that the qualities such as "enterprise, innovation, self-reliance and problem-solving" were "too narrowly associated with a technological and commercial idiom".[301] While the "promotion of vocational and practical subjects and of work experience were regarded by the Convention as important features of the education system, a too narrow approach to them could distort the educational process".[302] In consequence

> All subjects should be approached in a truly educational way and thus transcend old dichotomies of liberal versus vocational.[303]

The details of this approach are not given.

3.11 Conclusion

Part One of this work is now complete because an objective has been achieved: the LCA has been situated as emerging as an official issue from a context. That context has been shaped and changed by the interaction between industrialisation, nationalism, and the balance of church-state relations. The report of the public, consensus-forming National

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[298] Ibid., p. 8.

[299] Ibid.

[300] Ibid.

[301] Ibid.

[302] Ibid.

[303] Ibid.

Education Convention of 1993 seemed to indicate that while there was tacit acceptance that the provision of 'education and training for employment' by the government would proceed along the lines set out in the publication *Education and Training Policies For Economic and Social Development*,[304] reservations had been expressed that a utilitarian and industrial emphasis in policy-making might be too strong. The policy measure named the Leaving Certificate Applied Programme (LCAP) was discussed, but the precise details and nature of the programme were not clear, and may in fact have been under active discussion at that time. Part Two of this work now provides a closer focus on the *official* documentation that surrounded the making of the policy described as "education and training for employment" and the initiatives known as the Leaving Certificate Applied (LCA) and the Leaving Certificate Vocational (LCV) programmes which resulted.

[304] National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, No. 95.

4 THE EDUCATIONAL POLICY BACKGROUND FROM WHICH THE LCA PROGRAMME EMERGED

4.1 Introduction

The evolution of the economic and industrial emphasis in official educational policy in the contemporary period is now examined. The discussion is, in the main, informed by a review of the work of the National Economic and Social Council (NESC) and Kellaghan, Lynch and Drudy, and Lynch.[1] The NESC perspective is characterised by Drudy and Lynch as broadly functionalist[2] , while their own perspective is described as broadly neo-Marxist structuralist.[3] A discussion concludes this section.

4.2 National Economic and Social Council

The perspective brought to this issue by the NESC is that "the education and training systems should be assessed jointly".[4] Following Hannan and Shortall, it is accepted that the aims and objectives of Irish education are similar to those of modern societies: socialisation into society; intellectual preparation; individual and personal development, preparation for work and adult life; classification and certification of individual attainments.[5]

Developments "in recent decades" are examined, beginning with consideration of the

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[1]National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, No. 95 (Dublin: NESC, October, 1993); T. Kellaghan, "Vocational Education in a Comparative Perspective", in *Education and Training Policies for Economic and Social Development*, pp. 96 - 128; Lynch, *The Hidden Curriculum*, Drudy and Lynch, *Schools and Society in Ireland.*

[2] Drudy and Lynch, *Schools and Society in Ireland*, pp. 31 - 33.

[3] Ibid., p. 37

[4] National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, p. 3.

[5] D. Hannan and S. Shortall, *The Quality of their Education: School Leavers' Views of Educational Objectives and Outcomes*, ESRI General Research Series, Paper No. 153 (Dublin: ESRI, 1991), cited in NESC, p. 4.

Investment in Education report, published in 1966.[6] Of interest here is the report's identification of educational deficits as obstacles on the path to economic and social development; of these, the deficit in basic education is of particular concern as a severe obstacle to retraining people in new skills throughout their working lives. The benefit of having tasks performed by individuals who have a higher skill level than the minimum required is pointed out: *these individuals may discover new tasks to be undertaken.*[7] These points deserve some thought. The idea of retraining in new skills throughout working life seems to have little connection with the traditional notion of a trade, and indicates an orientation towards a new notion of work. A valuable aspect of education seems to be that the individual learns how to learn new things when school days are over ("learning to learn"). A skill "surplus" permits the discovery of new tasks; this seems to imply that the operative may do two or three tasks rather than one, thus increasing the productivity of labour.

The NESC considers policy priorities in education and training in the 1960s and 1970s, and assesses the achievement of policy objectives. It is concluded that the issue of *access* to education ("educational opportunity") is no longer central, but that the issue of *attainment* is. Studies show a consistent pattern of class inequality.[8] The phenomenon of "credentialism" is noted and its relation to social class:

> the rationing of limited job opportunities by reference to educational qualifications which are themselves systematically related to social class background.[9]

The disadvantages (this appears to mean low educational attainments) associated with low social class are found to be cumulative over time; the individual must be successful at all

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[6] National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, p. 4.

[7] *Investment in Education*, p. 317, ff 1 and 2, cited in National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, p. 5. Emphasis added.

[8] D. Hannan, "Ending Inequality in Education", *Poverty Today*, July/Sept 1992, p. 7; R. Breen, D. Hannan, D. Rottman, and C. Whelan, *Understanding Contemporary Ireland* (Dublin: Gill and Macmillan, 1990), cited in National Economic and Social Council, *Education and Training Policies for Economic and Social Development*,, pp. 7 - 10.

[9] National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, p. 10.

stages of the educational system, as failure is penalised at each juncture.[10] As participation rates for the cohort of 15 year old students increased from 50% in the 1960s to 85% by 1979, increasing numbers of disadvantaged students are retained in the education system.[11] The NESC report notes that "the question has been raised" as to whether schools have kept pace with their changing clientele and whether provision has been sufficiently widened to accommodate the increased variety in educational ability.[12]

The extent of low performance in the Leaving Certificate examinations is considered, with secondary school principals reporting 1 in 6 of senior cycle students as low achieving or poorly motivated, and that they consider the programme inappropriate for 1 in 4 of their students.[13] Moreover, this group of principals suspects that VPT alternatives to the Leaving Certificate programme " are seen by teachers, parents and students as an admission of failure to come to terms with the higher status Leaving Certificate." [14] The NESC report notes that "the question has been raised" as to

> whether the secondary school system, by virtue of its structure and subject mix, is directing young people to forms of employment which are declining.[15]

Furthermore

> It has also been criticised for inducing a sense of dependence and not promoting a sense of self-reliance which would ultimately encourage a higher proportion of young people to become innovative and make use of their skills independently.[16]

[10] D. Hannan and S. Shortall, *The Quality of their Education: School Leavers' Views of Educational Objectives and Outcomes*, R. Breen, D. Hannan, D. Rottman, and C. Whelan, *Understanding Contemporary Ireland.*

[11] D. Hannan, "Ending Inequality in Education".

[12] National Economic and Social Council, *Education and Training Policies for Economic and Social Development*,, p. 11.

[13] Curriculum Awareness Action Group, *Low Achievement at Senior Cycle - A Survey of Principals of Voluntary Secondary Schools* (Dublin: Marino Institute of Education, 1990), cited in NESC, pp. 12 - 13.

[14] Ibid., p. 53.

[15] National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, p. 13.

[16] D. Conniffe and K. Kennedy, *Employment and Unemployment* (Dublin, ESRI, 1984), p.237, cited in National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, p. 13.

The NESC report is keen to make a contextual distinction between the debates of the 1960s and the 1990s.[17] It is claimed that education and training policy in the 1960s "was structured as a *response* to employment needs arising from economic growth, in the 1990s it is structured as a *contribution* to economic growth through human resource development. The context is different but the objectives remain the same".[18] This appears to mean that the measures of the 1960s were reactive, but that the present measures are taken as part of a *strategic* reorientation in an internationally competitive "environment of high unemployment with an emphasis on training and education as a basis for innovation and creative skills".[19] Presumably, the operative is not only to discover new tasks (1960s), but to carry them out independently (1990s).

4.3 OECD Review

Attention is turned in the NESC report to the 1991 OECD *Review of National Policies for Education: Ireland*.[20] This review's claim that the Irish educational system is meeting neither student requirements nor societal needs is held to be endorsed, in the NESC's view, by the research of Hannan and Shortall and the data from the National Council for Curriculum and Assessment (NCCA) on leaving certificate outcomes, and that of the Industrial Policy Review Group.[21] Whatever the merits of this point of view, the NESC report does not record the observations of the OECD review on education and training. In fact, the OECD review quotes the previous work of the NESC as support for its own perspective, giving evidence of a certain circularity in the argument. In the OECD review, a view of the modern notion of work, similar to that proposed by the NESC, is advanced:

> Today, the typical job in an advanced industrial society demands a *level of functional literacy and an ability to be analytical* that far exceeds the demands of

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[17] National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, p. 15.

[18] Ibid.

[19] Ibid.

[20] Organisation for Economic Cooperation and Development, *Reviews of National Policies for Education: Ireland* (Paris: OECD, 1991), cited in National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, p.15.

[21] Hannan and Shortall, op. cit.; Industrial Policy Review Group, *A Time for Change: Industrial Policy for the 1990s* (Dublin: The Stationery Office, 1992). The latter report is considered below.

> many jobs even ten and twenty years ago. This places a premium on the very quality of the instruction offered in the schools. In our view, six sets of resources have a direct bearing on that quality: the teachers, the teacher training institutions, teachers' centres, the inspectorate, the school as work place, and the Council for Curriculum and Assessment.[22]

The OECD review sees the Irish school system as presenting a face to the world "quite recognisably that of previous generations. There is a growing dissonance between it and the development of learning sciences and modern teaching technologies that requires a very different approach".[23] There is "dissatisfaction with present practice and frustration that new initiatives are being ignored or pursued with insufficient vigour", as shown by, *inter alia*, "the pressure from employer groups and tertiary bodies for more emphasis on scientific, technical and practical work in schools".[24] Evidence for the latter is supplied by a quotation from a previous NESC report, *Manpower Policy in Ireland*:

> The consultants argue that the educational system has not responded sufficiently to current labour market requirements and may now require some modification. They cite, in particular, the over-emphasis on general education and the failure to develop a project higher cycle structure in the vocational sector.[25]

The OECD review also considers the effects of the examination process on the entire curriculum. The changes represented in the transition from the Intermediate/Day Group Certificate structure to that of the Junior Certificate are welcomed, though reservations are expressed about the continuing influence of the subject rather than the "area of experience" as the organising principle in the curriculum.[26] The necessity for such changes comes from the fact that "...nowadays in excess of 90 per cent of young people remain in full-time education until the end of the lower secondary cycle...The lower secondary school has become a universal and not simply a mass institution".[27]

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[22] Organisation for Economic Cooperation and Development, *Reviews of National Policies for Education: Ireland* , p. 50. Emphasis added.

[23] Ibid., p. 55.

[24] Ibid., p. 66.

[25] NESC, *Manpower Policy in Ireland* (Dublin: NESC, 1985), p.6, cited in Organisation for Economic Cooperation and Development, *Reviews of National Policies for Education: Ireland* , p. 76.

[26] Organisation for Economic Cooperation and Development, *Reviews of National Policies for Education: Ireland* p. 68.

[27] Ibid., p. 67.

The secondary curriculum is characterised as a "derivation from the "classical humanist" tradition with an overlay of technological/technical/vocational subjects and a leavening provided by development projects".[28] The vocational and technical schools provide a more practical curriculum, "more overtly related to occupations and careers in manual, trades, clerical and secretarial fields and middle-management positions".[29] This polarisation is said to be "often less extreme than here presented", due to the provision secondary schools "to a greater or lesser degree" make for less academic pupils, and the provision vocational schools make to permit access to higher-level technological and scientific education.[30] The comprehensive and community schools "have shifted their curricula into the wide range of channels familiar in the comprehensive school movement internationally".[31]

The OECD review observes that Ireland, throughout the 1980s, "sought to strengthen the more socially instrumental and utilitarian elements of its school and higher education curriculum".[32] The cause of this is said to be "gathering interest in career-related and work-oriented secondary education".[33] This phenomenon is not a mere reflection of social demand, it is claimed, but arises from a need to provide "a more diverse student population in secondary education" with "more relevant and motivating programmes of study".[34] (A careful reading of the review reveals that the use of the word "secondary" is consistent with the current use of that word in the Irish educational context.) The review identifies a "curriculum problem" which is likely to be both a constraint and a barrier for this new orientation in the secondary school:

> The weight of the classical humanist tradition is enormous, not least because of its underpinning of high-status occupations and a way of life which is widely admired even though unattainable by the majority. The dominance is likely to prevail unless the authorities are able to develop either a much more powerful parallel system of technical/vocational schools or a restructured general secondary education

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[28] Ibid., p. 68.

[29] Ibid.

[30] Ibid., p. 69.

[31] Ibid.

[32] Ibid.

[33] Ibid.

[34] Ibid.

curriculum.[35]

At the time of writing of the review, 1991, the new Junior Certificate programme was being introduced. The review comments that the technical/humanist dichotomy is less sharp in the junior cycle, as the new programme appears to sustain the "technical/vocational thrust", but that at the upper secondary level "directions are much less clear".[36]

The review points out that its observations are in harmony with a converging view ("a similarity of approach and homogeneity of conclusions") in the body of research and normative literature in Ireland.[37] Two particular concerns are identified: "the need to modernise the school system by relating it in more direct ways to the cultural/socio-economic condition of the country in the present day and age"; and "the values of the school, curriculum and pedagogy should be more responsive to individual student requirements".[38] The logic of this must lead to a conclusion that individual students require an education that is appropriate to the here-and-now. This requires

> the transformation of classrooms from traditional centres of instruction to active centres of learning where *initiative, independence of thought, practical skills, problem-solving and cognitive strategies* become central rather than marginal as they often are at present.[39]

The core curriculum recommended by the review as an agent for such a transformation, and the concomitant changes in examination and assessment practices, are, it is conceded, major changes. However, more serious obstacles to the success of such measures are identified to be a "curriculum design which is centrally prescriptive in detail and precludes local adaptation", and the avoidance of the task "of structuring and adapting the content of the common learnings to the different intellectual capabilities of students".[40]

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[35] Ibid. Note the nature of the choice.

[36] Ibid.

[37] Ibid., p. 74.

[38] Ibid., p. 75.

[39] Ibid. Emphasis added.

[40] Ibid.

The issue of general versus vocational education makes one final appearance at the end of the OECD review, when the minister and her officials took part in a "review meeting" with OECD delegates:

> The *delegate of Switzerland* posed three questions: ... Was the trend towards a longer period of general secondary studies for all rather than a split between general and vocational studies?
>
> ...The *Minister* said that the social demand was for more general education. It should be noted, however, that the line between general and vocational studies had become blurred.[41]

4.4 IPRG (Culliton) Report

Another voice in the "present debate" is identified by the NESC report as the IPRG (Industrial Policy Review Group), whose report was published in 1992.[42] "There is not enough emphasis in Irish second level education on technical and vocational training", this report claims, and goes on to identify a real skills gap between skill levels in firms in Ireland and that of best practice firms in competitor countries.[43] The fact that Irish managers do not see a skills shortage may be part of the problem, it is claimed, while the IPRG identifies an absence of "multi-skilling" as an issue.[44] The perceived skills gap between Ireland and competitor countries requires the attention of both industry and the educational system, a point of view the NESC see as endorsed by Fitzgerald and Keegan, who identified the low commitment of employers to training, and the release of workers from work to be trained, as major factors leading to current problems.[45]

Drudy and Lynch are skeptical about the recommendations of the IPRG, disputing the existence of a skills shortage, and essentially arguing that even if there is a problem it is a matter for industry (and in fact an issue of industrial relations to do with demarcation), not

[41] Ibid., p. 124.

[42] National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 15; IPRG, *A Time for Change*. See also F. Roche and P. Tansey, *Industrial Training in Ireland* (Dublin: The Stationery Office, 1992).

[43] IPRG, *A Time for Change* , p. 53.

[44] Ibid., p. 54.

[45] J. Fitzgerald and O. Keegan, "The Community Support Framework - Evaluation and Recommendations" (Dublin: Stationery Office, 1993), cited in NESC, p. 15.

the education system.[46] Education, it is claimed, is habitually made a scapegoat for economic difficulties in times of recession.[47] For these authors, what is significant about the renewed thrust toward technical education in the 1990s, of which the IPRG report is part, is that, unlike earlier initiatives, there is "an absence of empirical evidence to substantiate the claims made about the lack of skills." [48]

4.5 Education and the Economy

The NESC report and Drudy and Lynch do agree, in general terms, about the character of official discourse on education, seeing in it a central assumption (the "human capital" assumption) that education and training ultimately lead to increased productivity and competitiveness.[49] However, Drudy and Lynch conclude from a review of the literature that *what is learned in school* is of little account, in these terms, in comparison with *what is learned at work*.[50] Collins claims that the main contribution of education to economic productivity occurs at the level of transition to mass literacy.[51] Berg, researching in the United States, found no evidence that better-educated employees are more productive than less-educated employees at any given level.[52] Little summarises the literature as indicating that education may be a necessary condition but is certainly not a sufficient one for the achievement of increased productivity, which seems to be associated with decision making procedures, communication links, promotion procedures, and in-service training.[53] Oxenham could not conclude that specific, technically oriented courses (as opposed to

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[46] Drudy and Lynch, *Schools and Society in Ireland.* p. 216.

[47] Ibid., p. 217.

[48] Ibid.

[49] National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p.16; Drudy and Lynch, *Schools and Society in Ireland.*, pp. 210 - 212.

[50] Drudy and Lynch, *Schools and Society in Ireland.* p. 210.

[51] R. Collins, *The Credential Society* (New York: Academic Press, 1979), cited in Drudy and Lynch, *Schools and Society in Ireland.*, p. 210.

[52] I. Berg, *Education and Jobs* (New York: Praeger, 1970), cited in Drudy and Lynch, *Schools and Society in Ireland.*, p. 211.

[53] A. Little, "Education, earnings and productivity: the eternal triangle", in J. Oxenham, ed., *Education versus Qualifications* (London: Allen and Unwin, 1984), cited in Drudy and Lynch, *Schools and Society in Ireland,* p. 211.

general courses of education) in schools improve job performance.[54]

It is within this set of issues and debates that the NESC report sets out three central questions to be answered:

> What types of education or training generate aggregate growth?
> What institutional or organisational factors limit or enhance the investment inhuman capital?
>
> To what extent are the investments in human capital actually employed productively in the economy?[55]

In short: How, and through what mechanisms, does the human capital embodied in education and training translate into improved productivity?[56] More particularly in the area of education, the NESC report is anxious to investigate the "educational basis for skill development, specifically the structure, content and performance of the vocational sub-sector of the education system".[57]

The NESC report addresses the questions set out above in three ways: the cross-national comparison of the relationship between education, training and productivity is investigated; the industrial and economic aspect is examined by Hitchins and Birnie; the educational aspect is examined by Kellaghan.[58]

The NESC is satisfied that there is an international trend, revealed in OECD national reviews, for governments to seek a return from the substantial funds spent on education systems; this concern has translated into a linking of basic skills to international competitiveness, and an increasing emphasis on curriculum, assessment, and certification.[59] An uncertainty about the precise needs of future employments has led, increasingly, to

[54] J. Oxenham, "Employers, jobs and qualifications", in J. Oxenham, ed., *Education versus Qualifications* (London: Allen and Unwin, 1984), p. 60, cited in Drudy and Lynch, *Schools and Society in Ireland.*, p. 211.

[55] National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* pp. 16 - 17.

[56] Ibid., p. 17.

[57] Ibid.

[58] Ibid.

[59] Ibid., p. 21.

training alternating between the workplace and the classroom.[60] This would appear to mean that the workplace provides skills and knowledge specific to the place of work, the classroom providing something else. The language of general, transferable skills seems ready-made to describe this classroom activity; however, another possibility is that the classroom is somewhere for the students to go and fill in their time at "activities".

The NESC report expresses concern that so many of the comparative studies in this area in Ireland have concentrated on size and inputs, rather than the outputs of educational systems in terms of actual levels of competence in technical, mathematical, linguistic or other skills.[61] This raises problems of identifying the implied and explicit objectives of education and training, and the effectiveness of such provision.[62] Measuring effectiveness brings its own difficulties, and the NESC detects a trend in international comparative studies of the relation between education, training, and productivity towards a "growing skepticism of commonly used criteria of educational performance...and an increasing recognition that the attainment levels of the lower-to-middle stratum, i.e. the generality of pupils, is the key criterion".[63]

4.6 A New Analysis

Two differing accounts of the distinction between the 1960s period and the 1990s period have already been underlined: policy as a speculative activity and policy as tempered by experience, in one account (NESC); policy supported by empirical evidence and policy unsupported by such data in another account (Drudy and Lynch). A third distinction is introduced in the NESC report: the emergence of a "new...institutionally focused analysis of education and training systems...in response to...changes."[64] The changes characteristic of the 1980s-1990s are identified as a rapid rate of technological change; growing internationalisation of the world economy and an intensification of international economic competition; and drastic deterioration in the labour market in many economies and a

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[60] Ibid.

[61] Ibid., p. 22.

[62] Ibid.

[63] Ibid., p. 23.

[64] Ibid., p. 26.

consequent growth in training and retraining programmes.[65] The new analysis is said to be distinguished by three features.[66]

The new analysis documents the "intricate relationship" between education and skill levels and the demand in the economy for such; elements of analysis include patterns of work organisation, workplace industrial relations, systems of social and occupational status, and wage differentials between skilled and unskilled workers.

The new analysis embodies "more precise and standardised measures of 'human capital'". Aggregate measures are avoided and "specific descriptions of (for example) actual curricula in key subjects, pass rates and average outcomes in examinations, comparisons across countries of levels of 'difficulty' in (for instance) maths or technical subjects in apparently comparable levels of education".

The new analysis is "emphatically comparative"; it starts from a *prima facie* relationship between education and training experience and policies, on the one hand, and national and sectoral economic performance, on the other.[67]

An example of this new mode of analysis is given by the work of Finegold and Soskice, examining the history of industrial training in Great Britain.[68] Four general features are claimed to have contributed to poor outcomes: a post-war consensus in favour of a gradual expansion of general and academic education and of the delegation of training largely to employers; a weak central bureaucracy and decentralisation of power throughout the education and training system; "an attenuated role for the vocational element in the education and training system as a whole due to the lower social status accorded to 'non-academic' education, the domination of the central bureaucracies by those with no background in, or empathy with, vocational education", and rigid apprenticeship structures; and certain

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[65] Ibid.

[66] Ibid., pp. 26 - 27.

[67] Ibid.

[68] D. Finegold and D. Soskice, "The Failure of Training in Britain: Analysis and Description", *Oxford Review of Economic Policy*, 4, 3 (Autumn, 1988).

features of the relation between the industrial and economic structure in the UK.[69]

The NESC report stresses the notion of a "low skills equilibrium" which emerges from Finegold and Soskice's analysis of the British experience, and suggests there exists an Irish version of this phenomenon.[70] The "low skills equilibrium" has two features of interest: the inter-relatedness of each element as part of a historically evolved institutionalised structure; the two-way nature of its causation: a "vicious circle" of low productivity, weak education and training systems; low productivity is underpinned and reinforced by an inter-locking series of institutions and practices.[71]

The discussion which follows in the NESC report is of interest.[72] The tensions and difficulties of comparisons between Ireland and the United Kingdom are well described by Lee, and there is some evidence of these in the NESC report discussion: facile "transplants" from the the circumstances in Britain to those of Ireland are to be avoided, but, still, "telling parallels" are detected.[73] One danger in this enterprise is to carry over the very radical distinction that exists in Britain between vocational and general education, underlined by the fact that a majority of British students left school by the age of 16 years.[74] The NESC report addresses this issue by suggesting that it is not necessary to assume that vocational and general education are mutually exclusive; the NESC Council is satisfied that this is "neither logically or empirically" the case:

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[69] National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, p. 29.

[70] Ibid.

[71] Ibid.

[72] Ibid., pp. 32 - 33.

[73] Lee, *Ireland 1912 - 1985*, passim; National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, p. 29.

[74] Ibid., p. 26.

The instances in other countries of superior vocational education were characterised by two important features (amongst others):

(a) Effective vocational training systems with good employment and production records are built on, and require, good *general* educational foundations,

and,

(b) The countries with apparently superior vocational training have *broad* vocational training with significant general educational requirements - the general and the vocational are inter-related...[75]

4.7 Ireland, Denmark, and The Netherlands

Detailed matched-plant studies were carried out on behalf of the NESC report.[76] Of interest here is that no conclusions are drawn about the second-level educational qualifications of employees in the plants in the three countries studied: Ireland, The Netherlands, and Denmark.[77] What comments there are refer to the third-level qualifications of managers and senior supervising grades, and the promotion of untrained persons from the shop floor to supervisory positions.[78] A trend is evident that Irish firms have larger maintenance departments than corresponding foreign firms, that attention to detail and quality control in Ireland involves the employment of extra supervisory staff, and that Irish firms have a lower commitment in terms of money spent on on-the-job training than continental counterparts.[79] A factor permitting the continuation of these negative features is identified as the "relatively low level of wages in Ireland (about 50-70 per cent of the level in the continental companies; a product, it is claimed, of lower levels of labour productivity). This ensured that, notwithstanding relatively low product quality, profitability was generally "satisfactory".[80]

Kellaghan carried out a comparative review of vocational education in Ireland, Denmark,

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[75] Ibid., pp. 32 - 33.

[76] Ibid., pp. 36 - 95.

[77] Ibid., pp. 89 - 90.

[78] Ibid., p. 90.

[79] Ibid., pp. 89 - 90.

[80] Ibid., p. 93.

and the Netherlands for the NESC report.[81] This analysis is now considered.

Kellaghan sets out the levels of vocational preparation as defined in the *Official Journal of the European Communities.*[82] These may be summarised as follows:

Figure 4.1 EU Levels of Skill Preparation

Level 1	Knowledge and skills attained at the end of compulsory education with perhaps some initiation to work.
Level 2	Basic craft skills.
Level 3	Technical work which can be *performed independently* and/or executive and coordinating duties and usually involves a greater degree of *theoretical knowledge*
Level 4	Post secondary education and training. Work at this level requires sufficient mastery of the scientific basis of an occupation to allow autonomously pursued vocational activity in management or administration as an employee or self-employed person.

Following from this, the discussion of school-related education and training is confined to levels 2 and 3.[83]

Kellaghan has difficulty with the distinction between general and vocational education, finding that

> ...in practice it is difficult to say whether a particular subject has a vocational relevance or not, or to what extent skills developed in a general education curriculum are important in a vocational context.[84]

Kellaghan finds it helpful to address the task of comparative analysis of vocational education by considering this education in the sense of the acquisition of "what are normally called

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[81] Ibid., pp. 96 - 128.

[82] 31 July, 1985.

[83] National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, pp. 96 - 97. However, the defining characteristic of level 4 is worth attention: *a sufficient knowledge of scientific knowledge permits autonomous activity.*

[84] Ibid., p. 97.

technical skills".[85] Struck, perhaps, by the narrowness of this definition, this author feels obliged to give "a working, perhaps idealised, description of the characteristics of an individual who has been prepared for work".[86] In addition to "specific occupational skills", there is also a need for the "knowledge and skills of general education (such as literacy, numeracy, the ability to solve problems, to cope with complex situations, to communicate clearly) as well as personal and social competencies, the ability to adapt, work habits and attitudes and enterprise skills".[87] Five characteristics are given:

1. Basic competencies in literacy, numeracy, science and information technology.
2. The ability to apply the knowledge and skills which have been acquired in school or training in the work situation.
3. The ability to work with others and a sense of responsibility.
4. Positive attitudes towards flexibility, innovation and entrepreneurial activity.
5. General and specific knowledge and skills relating to a particular occupation which are acquired in special training or apprenticeships.[88]

Thus the characteristics consist of competencies, abilities, attitudes, with general and specific knowledge and skills. The second characteristic, the notion of transfer of skills, is said to be an "ability" characteristic of a person "who has been prepared for work". It is not clear whether this ability is innate or acquired. It is not clear how serious the lack of such ability would be for a person "prepared for work".

Kellaghan states that it is "generally accepted that vocational education or training should be preceded by a sound general education". Outcomes in the area of literacy, numeracy, and science are considered in the school systems of Ireland, Denmark, and The Netherlands, concerning students at the end of the compulsory phase of post-primary education.[89] It is concluded that while the Irish level of achievement in reading literacy seems comparable with the other two countries, there are proportionately more boys in the lower-achieving group in Ireland; outcomes in mathematics were broadly comparable, but those in science

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[85] Ibid.

[86] Ibid.

[87] Ibid.

[88] Ibid.

[89] Ibid., p. 98.

were well below the international average.[90]

Other features are of note. The enrolment rates in Ireland in 1987-88 were found to be lower for the 16-17 year group than in the other two countries.[91] The proportion of Irish students enrolled in technical/vocational and apprenticeship programmes was found to be low (17.4% in 1988) compared to Denmark (71.7%) and The Netherlands (60.4%).[92] A higher percentage of the 25 to 64-year-olds in Ireland has received only primary education, and a lower percentage has attended upper secondary school, than in the other two countries.[93]

4.8 Vocational Education in Ireland

Kellaghan then considers vocational education in Ireland. At Leaving Certificate level he notes the "limited availability of technical subjects and their low take-up as examination subjects":

> Although a great deal of emphasis has been placed on technical education in policy statements since the 1960s, not a great deal of change took place in regulations governing curricula or examinations which might have encouraged the desired changes.[94]

A new development named the Leaving Certificate Vocational Programme (LCVP) is described (as of 1993), and accurately identified as a subset of the traditional Leaving Certificate. The aim of the programme is said to be the provision of "a more practical, vocational option within the Leaving Certificate".[95] This aim is to be effected, it appears, by directing the student's choice of subjects towards two of three technical subjects: construction studies, technical drawing, and engineering - subjects not generally available in

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[90] Ibid. p. 99.

[91] Ibid.

[92] Ibid., p. 100.

[93] Ibid.

[94] Ibid.

[95] Ibid., p. 105.

girls' schools.[96] The take-up rate is said to be low, with 5% of the Leaving Certificate cohort of 1993 participating, though a target figure of 30% is given for the period after 1994.[97] Kellaghan seems unaware of the contradiction between the fact of studying subjects that are a subset of the "traditional Leaving Certificate" and the desire that such a course of study should constitute a "more practical, vocational option". Certainly, this author, having taught the subject, is unclear in what *exact* sense Technical Drawing is either practical or vocational; it is certainly *an extremely difficult and demanding subject* for both teacher and student; *terms which are not usually associated with the terms "practical and vocational"*. The precise issues concerning Technical Drawing are outside the terms of this work, but it should be noted that this subject's emphasis on the visual, spatial and geometric cognitive processes is uncommon in the post-primary curriculum; that the geometrical aspects are very abstract; and that the mastery of the subject requires the ability to analyse and *communicate* complex ideas within a formalised convention or "grammar".

An experimental project named the Senior Certificate Programme is discussed. Some 15000 students have followed this course in the period 1986-93 in approximately sixty schools.[98]

> The programme appears to place equal emphasis on the development of practical skills and on skills associated with traditional schooling, although the teaching methods and approach used are very different to those of traditional schooling.[99]

The development of the earlier initiative in vocational education, the Vocational Preparation and Training Programmes (VPTP), is examined, and a variety of problematic features noted. There is a lack of standardisation in assessment and certification procedures.[100] The rationale for the introduction of the course comes from the "social guarantee provision for early school leavers and those inadequately prepared for the world of work", rather than

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[96] Ibid.

[97] Ibid.

[98] Ibid.

[99] Ibid.

[100] Ibid., p. 107.

from any analysis of labour market needs.[101] The concern that the programme is more fund-driven than labour market driven, the bulk of the monies for the programme coming from the European Social Fund.[102] However, a variety of measures including the establishment of the National Council for Vocational Awards in 1991 has resulted in this programme being better planned and responsive to labour market needs.[103]

The system of apprenticeship in Ireland is considered, with two major changes highlighted: the change from apprenticeship on the basis of time served to that of standards achieved, and the change that has occurred in the entering qualifications for apprenticeships.[104] In the latter case, the minimal academic requirement is a grade D in any five Junior Certificate examinations, though by 1991 some 44% of entering apprentices had Leaving Certificate qualifications; the comparative figure for 1983 is 25%.[105] Kellaghan sees these figures as evidence of "an increasing reliance on the Leaving Certificate as the entry requirement for certain trades".[106]

4.9 The Culliton and Moriarty Reports

Kellaghan considers the *IPRG Report* (the "Culliton Report") of 1992 and its recommendations that a separate, *high-quality, respected*, technical and vocational stream be established within post-primary education; a greater involvement of industry in such education; and that on-the-job training should be supported by study in vocational and technical schools.[107] Kellaghan doubts whether at least one claim of the IPRG is supported by the statistical evidence; the claim that second level education is becoming progressively

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[101] Ibid.

[102] Ibid.

[103] Ibid., p. 108.

[104] Ibid., pp. 108-109.

[105] Ibid., p. 108. The source is given only as *Apprenticeship Services, Dec. 1992.*

[106] Ibid., p. 109. The specific trades cannot be identified from the statistics.

[107] *The Industrial Policy Review Group (IPRG) Report*, cited in National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 110. Professor Patrick Honohan of the ESRI acted as a consultant to the IPRG.

more academic in nature over the years.[108] Kellaghan does not give the data he has in mind, nor expand on what precisely the IPRG Report intended by this remark.

Analysis of the *IPRG Report* indicates that education and training are seen as

> a most critical element of policy affecting not just industry but overall economic welfare. In an increasingly integrated and competitive world, skills and knowledge constitute one of the few areas where an economy can command a differential competitive advantage.[109]

The *IPRG Report* claims to identify serious gaps in the Irish education and training system, in particular, the provision of technical and vocational education and "the intermediate production skills that are crucial to industrial productivity".[110] Urgent action is required "at the level of the curriculum and by providing a credible technical and vocational stream at secondary level leading to qualifications that confer prestige." [111] The necessity for radical measures is seen to arise from the education system having become

> progressively more academic in nature. At the second level, vocational education is being crowded out by the academic stream. This shift is not simply between secondary and vocational schools, but is happening within vocational schools themselves.
> ...There is not enough emphasis in Irish second level education on technical and vocational training. Over the years the prestige of the academic Leaving Certificate programme has diverted students who would be much better adapted to a technical training. A high proportion of school leavers describe their schooling in dismissive terms: they can see clearly its lack of relevance for them.[112]

The main recommendations of the *IPRG Report* relevant here are as follows. The existing "bias towards the liberal arts and the traditional professions" needed to be "de-emphasised" by an awareness at all educational levels that the need for productive enterprise was of

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[108] National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 110.

[109] *The Industrial Policy Review Group (IPRG) Report*, p. 53.

[110] Ibid., p. 9.

[111] Ibid., pp. 9 - 10.

[112] Ibid., p. 53.

primary importance.[113] A higher priority needed to be attached in the education system to the acquisition of "usable and marketable skills", not only to address the requirements of industrial development, but also to improve the employment prospects and self-fulfilment of young people.[114] The most radical proposal was that

> A high-quality and respected stream of technical and vocational education with a new curriculum and industry involvement should be developed. The academic subjects should not be neglected in this stream. The approach and standards of Continental countries, such as Germany, should be the model.[115]

The emphasis on the need to change attitudes is sustained throughout the *IPRG Report*:

> Too few of our best students are drawn to a career in industry, much less to enterprise. Between 1971 and 1986 the number of accountants more than trebled, and the number of auctioneers and lawyers doubled, but the number of engineers increased by less than 50 per cent. While Ireland, like every society, needs its accountants and lawyers, it is hard to resist the conclusion that too little effort in Ireland is going into directly productive activities that are product-oriented and market-driven. The problem...is acute here. This is partly a question of attitudes which needs to be addressed through a new approach to the system of education and training, especially by raising the status and quality of technical education.[116]

Education has a role to play in stopping the growth of long-term unemployment. There is said to be an emerging consensus among experts that action in this area includes

> prevention through better targeted second level education, including greater emphasis on vocational and technical training and apprenticeship schemes.[117]

The *Moriarty Task Force* was established by the government to implement the IPRG recommendations and issue a report.[118] This report did not endorse one of the major IPRG

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[113] Ibid., p. 11.

[114] Ibid.

[115] Ibid., p. 12.

[116] Ibid., p. 22.

[117] Ibid., p. 32.

[118] Task Force on the Implementation of the Industrial Policy Review Group's Recommendations, *First Report* (Dublin: The Stationery Office, 1992), cited in National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 110. Professor Kieran Kennedy, Director of the ESRI, was a member of the Task Force. The Department of Education was not represented on the Task Force, but the Department of Industry and Commerce was (by the Secretary of that Department).

recommendations, the proposal to establish a separate vocational stream. (In the following discussion, it should be noted that the term "secondary school" is used ambiguously in the official publication). The Department of Education had argued to the Task Force that

> the required reform of second level education can be achieved by expanding and building on the range of options for high quality vocational courses within an integrated secondary school system (rather than in a "parallel" school system).[119]

The Task Force accepted the Department of Education's view that the objectives of the "Culliton" Group could be met in this way, if "pursued with vigour and if the new arrangements are kept under review".[120]

There is some anxiety evident in the *Moriarty Task Force Report* that academic standards must be maintained throughout any "reorientation or balancing of the emphasis in education".[121] However

> the reorientation of education to enable children even in the junior cycle to acquire a solid, general educational basis that will enable them to add on, in the senior cycle and subsequently, the knowledge, high-level skills and attitudes required for work, is an important, substantive change. Government policy should ensure the required reorientation of educational objectives and courses.[122]

The issue of vocational education is now to be a matter for the period *after* senior cycle

> It is necessary to strengthen the vocational orientation and relevance of particular subject options in secondary schools so as to provide an adequate platform for young people to proceed, at around the age of eighteen years, to develop advanced, highly -rated skills for work as part of their post-secondary formation.
>
> The curriculum for senior cycle in secondary schools should, therefore, allow and encourage students to choose subjects from both the academic and the vocational streams.
>
> The range of subjects on offer at senior cycle should be rationalised and simplified, in this connection.[123]

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[119] *Employment Through Enterprise - The Response of the Government to the Moriarty Task Force on the Implementation of the Culliton Report* (Dublin: The Stationery Office, May. 1993), p. 38.

[120] Ibid.

[121] Ibid., p. 39.

[122] Ibid.

[123] Ibid.

Further recommendations included

> ...an emphasis at all educational levels on the *skills, knowledge and attitudes conducive to enterprise and self-reliance*...general education should foster "a solid basis" on which to build high-level skills and knowledge for work.[124]

4.10 The Green Paper[125]

Kellaghan gives a brief commentary on the *Green Paper* of 1992, its recommendations more in tune with the Moriarty report than that of the IPRG; training should be broad based rather than job specific; vocational education and provision for technical subjects should be reinforced and expanded within the senior cycle of post-primary education; a national system for the provision of vocational education and training should be established, with a modular, graduated structure permitting transfer, progression and second-chance education; a rigorous, coherent system of assessment, certification and accreditation is proposed; employers and trade unions should be involved in the process to improve the flow of information concerning the "skills required for economic growth and development".[126]

Kellaghan's review of provision for vocational education in Denmark and The Netherlands sees a convergence of policy towards a common programme of general education in the junior cycle of post-primary education.[127] Both in Denmark and The Netherlands, students separate into schools offering a vocational or an academic programme after the period of compulsory education (16 years), with approximately 60% of Danish students and 50% of Dutch students enrolled in "technical vocational courses".[128] A figure for 20% is given for Ireland, though Kellaghan does not indicate its source.[129] However, it is stressed that in Ireland, such courses are "more pre-vocational and less job-specific than the types

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[124] National Economic and Social Council, *Education and Training Policies for Economic and Social Development,*, p. 110. Emphasis added.

[125] Government of Ireland, *Education for a Changing World - Green Paper on Education* (Dublin: The Stationery Office, 1992).

[126] Ibid., p. 111. The junior cycles in the different countries do not start at the same student age.

[127] Ibid., p. 121.

[128] Ibid. p. 122.

[129] Ibid.

provided" in the other countries, indicating that Kellaghan has amalgamated all students in VPT, LCVP, CERT, and FAS programmes, but excluded apprentices.[130]

The NESC Council indicates that, like Moriarty, it is against the creation of "separate vocational schools for students who have completed lower secondary education and who wish to begin vocational studies".[131] The main reasons for this opposition are the total reversal of policy this would imply within the Irish context, and that the Green Paper has indicated that the government is not going to do this anyway - favouring "an expansion of technical subjects within the senior cycle of all second-level schools".[132] While this indicates an appreciation of the realities of power, it is not convincing as an argument *for* policy. Still, the difficulties of implementing such a policy are considered:

> What will be the nature of vocational education provided in this situation? What new programmes will have to be developed? What will be the relationship between academic and vocational education and qualifications? How will adequate facilities be provided in all second-level schools? What arrangements will be made to relate school-based preparation to industry-based preparation?[133]

The NESC identifies the following as likely outcomes of the Green Paper proposals:

> (the provision of) an education in second-level schools that is more general than vocational. The vocational component of programmes will more realistically be directed towards making students generally adaptable in the work environment as well as, perhaps, providing them with applicable skills (e.g. keyboard skills).[134]

Irish students will not receive preparation for specific jobs, as with the Dutch/Danish experience, with its emphasis on "work-related skills, values and attitudes", but "the envisaged Irish approach will provide greater opportunities for the development of general competencies which should enhance students' ability to benefit from subsequent job

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[130] Ibid., p. 123

[131] Ibid.

[132] Ibid.

[133] Ibid.

[134] T. Kellaghan and M. Lewis, *Transition Education in Irish Schools* (Dublin: The Education Company, 1991), cited in National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 223.

training".[135] However, there is a cost:

> This, however, will be at the cost of keeping students in the formal education system for a longer time than on the basis of practice in other countries, appears to be necessary to obtain particular qualifications.[136]

Other difficulties are identified:

> The task of developing a programme of broadly based education for all advocated in the Green Paper is more formidable than it might appear...What will be required will be a radical development of senior-cycle programmes that will take into account not only existing Leaving Certificate subjects but the experience gained from the VPT and Senior Certificate programmes. Further, the process will have to take account of the needs, achievement levels, and learning styles of students, as well as the vocational relevance of courses.[137]

Assessment procedures will not only have to address these developments, but also, in a vocational context, the contemporary understanding of what assessment is expected to do. Middleton and Demsky identify four expectations of assessment and certification procedures:

* the promotion of labour mobility
* the reduction of costs to employers who do not have to invest in their own testing system
* the setting of standards of achievement that can guide curriculum development
* the provision of criteria for monitoring the performance of training institutions[138]

Kellaghan sees developments in both The Netherlands and Denmark conforming to this trend: a standards-based assessment procedure for apprentices, and, furthermore, the emerging view that

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[135] National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, p. 124. The reader is directed to: J. Sheehan, "Education and the Economy", a paper prepared for the OECD Review of National policies for Education in Ireland.

[136] Ibid.

[137] Ibid.

[138] J. Middleton and T. Demsky, *Vocational Education and Training: A Review of World Bank Investment* (Washington, D. C. :World Bank, 1989), cited in National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, p. 125.

> the certification associated with examination performance is designed to allow students who reach certain standards to progress to higher levels of training and qualification.[139]

The proposals in the Green Paper to develop a national framework for certification and a system which would ensure standards across a graded system are seen to be an Irish response to these trends, though the number of bodies delivering existing provision will be difficult to rationalise.[140]

The final remarks of Kellaghan's review of national policies of vocational education in The Netherlands, Denmark, and Ireland, concern the need for continual review and evaluation of existing provision, and the difficulties of matching the number of apprentices trained in a specific area of employment to the number of workers required.[141] In addition, all three counties suffer in varying degree from a common ill:

> the prestige of vocational education relative to more academic education. Not only do high achieving students choose the academic route in second-level schools, but...many students of lower achievement levels also aspire to an academic education...They do this (in The Netherlands) even though the likelihood of qualifying for university entrance and job prospects at the end of general secondary education are poor, while there is a shortage of individuals with craft skills in the country.[142]

4.11 Educational Disadvantage

The NESC report then considers strategies to address "educational disadvantage", a term which seems to be consistently used in the sense of low educational attainments which arise as outcomes of a "disadvantaged" participation in the educational process. In the area of vocational education, a review of such initiatives as VPT, VPT1, VPT2, and PLC, as discussed above, concludes with the same criticisms already voiced by Kellaghan and others.[143] However, following Crooks, the NESC detect some positive and encouraging

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[139] Ibid.

[140] Ibid.

[141] Ibid., pp. 127 - 8.

[142] Ibid., p. 127.

[143] Ibid., p. 158.

aspects to these initiatives:

> (Such initiatives as VPT)...tapped a need and desire for further training. It is important too because it has made a break with the manner in which, prior to this, post-primary level education has been presented. The policy adopted gave general guidelines and asked schools to respond with imagination and creativity and it encouraged differences at local level.[144]

The NESC considers "systematic" disadvantage in the senior cycle of post-primary education.[145] With the usual reservations, the British experience is considered; including the view of Bierhoff and Prais that *an egalitarian approach to education which sees students studying the same course produces a general academic education for all.*[146] A key mechanism here is *the transformation and intellectualisation* of "straight-forward practical subjects".[147] The degree to which this has happened in Ireland is left as an open question, but the NESC comment that increased retention rates in Ireland have not led to the growth of the vocational education sector, unlike the situation in The Netherlands and Denmark.[148]

The NESC considers the revised senior cycle programme in Ireland, and the initiatives taken to accommodate "a wider range of abilities and aptitudes".[149] As with previous discussions of the Leaving Certificate Applied (LCA), it is identified as an *alternative* to the traditional Leaving Certificate, with a differing content and methodology, the subject material not being organised by discrete subjects but by interlinked themes and topics -

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[144] T. Crooks, "Course Development and Assessment Procedures", in *Proceedings of the Vocational Education Initiatives Seminar* ,November 1991, IVEA, cited in National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 158.

[145] National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* pp. 161 - 166.

[146] H. Bierhoff and S. Prais, "Britain's industrial skills and the school teaching of practical subjects: comparisons with Germany, The Netherlands and Switzerland", *National Institute Economic Review,* Number 144, May, 1993, pp. 55 - 73, cited in National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 161.

[147] Ibid., p. 65.

[148] National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 161.

[149] Ibid.

features that are said to be inherited from the Senior Certificate programme.[150] New features of the LCA are identified: the programme is composed of two one year self-contained components; the programme is a discrete one, quite distinct from and without overlap with the traditional Leaving Certificate; the LCA and the traditional Leaving Certificate are "graded differently and there is no equivalence".[151] Despite the hopes of the NCCA in this regard, the NESC Council is pessimistic about the success of the LCA unless "*it can be seen to lead to worthwhile employment prospects* ".[152] It is the opinion of the NESC Council that "a substantial number" of students will "continue to choose mainly ordinary level Leaving Certificate courses", and, one presumes, will in turn suffer the same feelings of dissatisfaction which research has revealed to be the lot of those who have made the same decisions in the past.[153]

The NESC Council recommend that "non-university routes must be clearly, and possibly *exclusively,* linked into particular further education and training options."[154]

> To be fully effective, these opportunities *should not* be open to young people who follow the Leaving Certificate programme. If the Leaving Certificate programme is an academic stream, then non-academic students must have particular vocational education options after following a strand of education with a different emphasis. If Leaving Certificate students can avail of further education, training and employment options designed for vocational education students, but not vice versa, it will continue to undermine the value and significance of the latter.[155]

This is an interesting argument. The issue of the undermining of the value and significance of vocational options presumably arises from the freedom of (traditional) Leaving Certificate students to compete unequally with LCA students for further training, with the goods that are left on the shelf, as it were, to be picked over by the losers in such competition.

One final aspect of the role of post-primary education in vocational education and training is considered in the NESC report, that of its relationship to FÁS and other youth training

[150] Ibid., p. 162.

[151] Ibid., p. 163.

[152] Ibid.

[153] Ibid.

[154] Ibid., p. 164.

[155] Ibid.

agencies. Breen found youth training schemes have had a limited impact in "correcting for educational under-achievement and its impact in the employment sphere"; what impact there is, is "increased *if they are school interventions rather than post school programmes*. School interventions reach greater numbers of "at risk" young people."[156] Breen's research of 1991 indicated the remarkable conclusion that the probability of employment appeared to *decrease* following participation in such out-of-school youth programmes for "low-achievers": "no matter how well students perform in such programmes, they are categorised for having attempted it and the label may defeat the programme's purpose".[157]

4.12 NESC Conclusions

The NESC report offers some conclusions and recommendations.[158] A continuity of view is shared with the NIEC (National Industrial Economic Council) of 1966 in identifying three objectives of the education system: the development of the individual person and the transmission of a common culture; the development in the individual of a receptiveness to new ideas and a capacity to organise, assess and apply them, requiring clear, creative and critical thought; the enabling of the individual to realise potential by the transmission of the facts, arts, skills and attitudes required to make work productive".[159] The specific issues addressed by the report are the contributions the education system can make to the overcoming of educational disadvantage and to the economic and social development of the community as a whole.[160] Of particular interest is the clear way in which the putative benefits of the skills of flexibility and adaptability are set out: greater motivation in product type and product process; the promotion of the idea that the addition of skills will continue throughout a person's working life; and, in very practical terms, fewer machinery

[156]R. Breen, *Education and the Labour Market: Work and Unemployment Among Recent Cohorts of Irish School Leavers*, ESRI General Research Papers, Paper 119, 1984, cited in National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 191.

[157]R. Breen, *Employment, Education and Training in the Youth Labour Market*, ESRI General Research Series, Paper No. 152, 1991, cited in National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 192.

[158] National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, pp. 199 - 224.

[159] NIEC, *Comments on Investment in Education*, Report No. 16 (Dublin: NIEC, 1966), cited in National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 199.

[160] National Economic and Social Council, *Education and Training Policies for Economic and Social Development,*, p. 200.

breakdowns, "because operators understand the basic mechanics of these machines, how to maintain them and how to carry out basic repairs".[161]

A verdict is offered on the development of vocational education and training in Ireland: despite the sharp distinctions of the past, "provision for academic and vocational education is now made in the same schools. While Irish schools differ in their emphasis and subject choice, they are all basically teaching the same curriculum towards the same end goal".[162]

The NESC observes that the differentiation of educational provision into academic, general, and vocational education in The Netherlands and Denmark is echoed in employment through the differentiation into management, supervisory, and operative functions. From what follows, the NESC does not see the continental model being replicated in Ireland, but rather an expansion of the availability of technical subjects *within* the senior cycle of the post-primary school.[163] What appears to be unasked, in this context, is what sort of pattern of differentiation in employment will follow in Ireland from subject choice (or is it *programme* choice) in school? What the NESC does see clearly, is the tension between the "equality of opportunity" argument for the same education and examination for all, and the stark consequences that research reveals for individuals who cannot succeed within such a programme or examination, or those for whom outcomes are mediocre and personally dissatisfying.[164]

The NESC argues that the history of alternatives to the traditional Leaving Certificate is not encouraging in the absence of a structured relation between such alternatives and employers and the labour market:

> Agreement among the social partners must safeguard the movement of young people with specific levels of education and training into appropriate positions in the labour market. Such agreement would have a number of beneficial effects
>
> (i) It would recognise the value of all forms of education and training.
>
> (ii) It would motivate employer interest.

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[161] Ibid., p. 207.

[162] Ibid., p. 210.

[163] Ibid.

[164] Ibid., p. 223.

(iii) It would restrict to some degree the rise in credentialism, which shuts off jobs to the least educated and underuses skills acquired through the education system.

The issue of credentialism is of some concern to the NESC, not simply because of the mismatch between employee and occupation, but, drawing on the views of Kennedy, the identification of credentialism as a key mechanism in the blocking the growth of a greater social consciousness and reaction to unemployment.[165]

> It follows that if higher socio-economic groups are more likely to have university level training than apprenticeship, diploma and certificate level training, employment opportunities will continue to be class biased....the proposal is *not* to advocate the employment of under-skilled people, but rather to advocate the correct match between skill level and employment.[166]

The intention here is that unemployment would become more "class-dispersed", producing the social response Kennedy sees as necessary to seriously address the issue of unemployment. Moreover:

> University graduates with a higher level of training combined with their more favourable social and cultural backgrounds are more likely to have greater resources to develop enterprise and create self-employment.[167]

In conclusion, the NESC highlights the poor record of Irish industry in providing structured training in the workplace, an under-training which permeates all skills levels from shop floor workers to management. As part of a response to this problem, the NESC recommends that employers be more involved in the planning of vocational education and training within the education system. It is quite clear that the NESC sees such involvement as a stimulus to greater interest by employers in providing training *within industry*:

> A knowledge of, and input into, course content, the structure of work placements, assessment procedures and standards of achievement *encourage employers to value*

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[165] K. Kennedy, "Ill effects of human set-aside cannot be dodged indefinitely", *The Irish Times*, June 14, 1993, and "A job for all of society", *Fortnight,* No. 317, pp. 28 - 28, 1993.

[166] National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 189.

[167] Ibid.

vocational education and training as an investment.[168]

The NESC sets out as a national priority "a strategic emphasis on building high-level skills and knowledge for work from a solid basis of general education".[169] The school system is to presumably provide the latter, with high-level skills such as "the ability to apply changing technologies in a fast moving economy, manage firms in ways that improve productivity, and build markets in overseas economies" as the product of specialised courses and work placement in PLC or other further education courses.

4.13 Discussion

The nature of the NESC view, that education in modern societies involves socialisation into society, intellectual preparation, individual and personal development, preparation for work and adult life, and classification and certification of individual attainments, is of interest. [170] What follows in the discussion here is a review of the classification and certification aspects of this view, and is of interest, given the analyses set out in Chapter Two of this work.

The NESC sees educational qualifications functioning as a mediating and distributative mechanism between job opportunities and social class background. The education system has not accommodated the increased variety in educational ability consequent upon the expansion of access to post-primary education. The NESC queries the value of the knowledge of which the educational credential is a token, by arguing that such knowledge may have been relevant to forms of employment which are now in decline, and that associated with such credentials are an attitude of dependence and a lack of self-reliance, self-reliance being said to encourage innovation and independent use of skill in young people. The "declining occupations" approach may be a diplomatic way of addressing the arbitrary nature of much general education, but there appears not to be any analysis of why an attitude of dependence should be associated with such an education. Bourdieu and

[168] Ibid., p. 224. Emphasis added.

[169] Ibid.

[170] D. Hannan and S. Shortall, *The Quality of their Education: School Leavers' Views of Educational Objectives and Outcomes*, ESRI General Research Series, Paper No. 153 (Dublin: ESRI, 1991), cited in National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 4.

Passeron see such "docility" as a distinguishing feature of those class fractions "whose ascension most directly depends on the School", and is contrasted with the resignation or aggression of others.[171] This docility is expressed in a "particular sensitivity to the symbolic effect of punishments or rewards and more precisely to the social-certification effect of academic qualifications".[172]

The NESC view of technical knowledge indicates an orientation towards a new notion of work, which demands flexibility and a "skills surplus". Bourdieu and Passeron describe this as an "aptitude for vocational readaptation", and consider it to be a new type of vocational speciality. The capacity of an education system to produce occupationally usable skills, such as the aptitude for vocational readaptation, constitutes, in their view, a measure of the rationality of the education system.[173] The OECD review identifies a need for a greater "level of functional literacy and an ability to be analytical" in performing industrial jobs; this output is related to the "quality of the instruction" in schools; the quality level being directly affected by teachers, teacher training institutions, teachers' centres, the inspectorate, the school as work place, and the NCCA.

The OECD review lists the features of the Irish education system as so many symptoms: the education system and the teaching is traditional and outdated; there is no recognition of developments in the learning sciences and modern teaching technologies; the demand for technical knowledge is frustrated; the rigid relation between type of school, type of curriculum followed, and occupational outcomes is described. Within the terms of the analysis offered in this work, what persists is the cultural arbitrary of the classical humanist tradition as an underpinning of dominant positions in the social space. Two stark courses of therapy are prescribed: introduce a high-powered dual-track system, or restructure the general secondary education curriculum, particularly at senior cycle. Whatever the decision, the teaching in schools must be oriented more towards the needs of the individual student, a prescription that corresponds to Bourdieu's *explicit* pedagogy.

These two therapies are quite different in nature. The dual-track approach appears to be an

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[171] P. Bourdieu and J-C. Passeron, *Reproduction*, p. 28.

[172] Ibid. Lynch's view supports this, seeing the middle-classes of "post-colonial" Ireland being particularly prone to relying upon academic qualifications as the means of social advance.

[173] Ibid., n.1, p. 211.

attempt to separate out technical knowledge from the cultural arbitrary of general education through the specification of the curriculum to be followed, while the restructuring approach appears to be an attempt to inject some technical knowledge into general education, though how students are to be coerced or encouraged to study these technical elements is not considered. Bourdieu and Passeron apply a characteristic technique to such dilemmas: take limiting cases.[174] A technical education which is perfectly matched to demand for industrial training would be one which,

> totally subordinating itself to the requirements of calculability and predictability, produced at the lowest cost specific skills directly adjusted to specialised tasks and guaranteed the types and levels of skill required for a given dateline by the economic system, using to this end personnel specially trained in handling the most adequate pedagogic techniques, setting aside class and sex divisions so as to draw as widely as possible (without stepping outside the limits of profitability) on the intellectual 'reserves' and banishing all vestiges of traditionalism so as to substitute for an education in culture, designed to form men of taste, an education capable of producing made-to-measure specialists according to schedule.[175]

No society operates such a system. The reason for this, argue Bourdieu and Passeron, is that there is a hidden benefit in the degree to which each educational system departs from this utilitarian model.

> If it is true that an educational system always succeeds in obtaining from those it consecrates and even those it excludes, a certain measure of adherence to the legitimacy of consecration or elimination and thereby of the social hierarchies, it can be seen that a low technical efficiency may be the price paid for the educational system's high efficiency in performing its function of legitimating the 'social order' - even when class-unconscious technocrats sometimes pat themselves on the back for condemning a wastage which they cannot assess without discounting the corresponding profits, by a sort of error in national accountancy.[176]

The more an education system claims to be rational by bringing what it teaches into line with the demands of industrial production, the more these "hidden benefits" are disguised.[177] Here, too, there are costs. The more the technical content of agents' academic qualifications are *actually tested*, the more the legitimacy of the preexisting diploma and of all the

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[174] Ibid., p. 181.

[175] Ibid.

[176] Ibid.

[177] Ibid., p. 164.

hierarchies it legitimates is threatened.[178] The inherent tension in this system finds expression in what has been described as "the low skills equilibrium". For Bourdieu, the increasingly *rational* character of the knowledge selected for transmission in school raises a real dilemma for sociology:

> the dominants, technocrats or epistemocrats on the right or the left, are hand in glove with reason and the universal: one makes one's way through universes in which more and more technical, rational justifications will be necessary in order to dominate and in which the dominated can and must also use reason to defend themselves against domination, because the dominants must increasingly invoke reason, and science, to exert their domination. This makes the progress of reason without doubt go hand in hand with the development of highly rationalised forms of domination..; it also creates a situation in which sociology, alone in a position to bring these mechanisms to light, must choose now more than ever between putting its rational instruments of knowledge at the service of an increasingly rational domination, or rationally analysing domination and especially the contribution that rational knowledge can make to domination.[179]

Bourdieu and Passeron are relentless in their insistence that, irrespective of the technical or general character of the system of education, the class relations of the broader society will be reproduced, for

> In systematically privileging one of the poles of a series of systematic oppositions (with the preeminence accorded to the theoretic disciplines, the literary cult of form and the taste for mathematical formalism or the absolute depreciation of technical education), the educational system privileges those on whom a family relatively freed from the pragmatism imposed by the urgencies of economic necessity has bestowed the privilege of the aptitude for symbolic, i.e. initially verbal, mastery of practical operations, and the detached, distant and 'disinterested' relation to the world and to others, hence to language and culture, which are demanded by the school, especially when it is a matter of acquiring dispositions as highly valued as the specifically aesthetic disposition or the scientific attitude.[180]

For those students whose grasp of the symbolic is weakest, the best benefits are to be obtained by studying subjects whose technical content is minimal, and the public examination of which, in consequence, is less likely to expose their lack of competence. Seen in these terms, the NESC's query, as to "whether the secondary school system, by virtue of its structure and subject mix, is directing young people to forms of employment

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[178] Ibid., p. 166.

[179] P. Bourdieu, *Practical Reason*, pp. 90 - 91.

[180] Ibid., n. 24, p. 216, citing P. Bourdieu, "Disposition esthétique et compétence artistique", *Les temps modernes*, 295, 1971, 1345 - 1378.

which are declining", is answered: the students and the schools are maximising the credential which can be obtained under the rules of the game, though the value of what is achieved is so low as to be just within the game.

The dispute over the "skills shortage" question turns on the issue of what, in fact, is required of the education system by industry. Drudy and Lynch conclude on the basis of their review of the literature that what is learned in work is more important than what is learned in school, and that, in historical terms, the transition to mass literacy constituted the main contribution of education to economic activity. The NESC's threefold enquiry into this question has odd results. The issue of the *motivation* for such enquiries is revealed, indirectly, to be the concern of governments to seek a return from the substantial funds spent on education systems through the linking of basic skills to competitiveness, and an emphasis on curriculum, assessment, and certification. The issue of *criteria* for educational performance and its relation to industry seems to be a dead-end, with the NESC concluding that there is "an increasing recognition that the attainment levels of the lower-to-middle stratum, i.e. the generality of pupils, is the key criterion".[181] As those who work at basic manufacturing processes might be expected to be drawn from this cohort, this conclusion is hardly a revelation. The "new analysis" approach of Finegold and Soskice is considered, and in the face of the possibility of an Irish version of this "low skills equilibrium", the NESC appears to seize on the most salient feature of the *organisation* of post-primary education in Britain, the separation of students into academic and technical education, and propose a *mixture* of general and vocational education for Irish schools. The general and the vocational are found, after all, to be "inter-related". The levels of vocational preparation as defined in the *Official Journal of the European Communities*, discussed earlier and shown again in figure 4.2, offer a framework within which the interrelation of general and vocational education may be placed.

[181] National Economic and Social Council, *Education and Training Policies for Economic and Social Development*, p. 23.

Level 1	Knowledge and skills attained at the end of compulsory education with perhaps some initiation to work.
Level 2	Basic craft skills.
Level 3	Technical work which can be *performed independently* and/or executive and coordinating duties and usually involves a greater degree of *theoretical knowledge*
Level 4	Post secondary education and training. Work at this level requires sufficient mastery of the scientific basis of an occupation to allow autonomously pursued vocational activity in management or administration as an employee or self-employed person.

Figure 4.2 EU Levels of Skill Preparation

This hierarchy demonstrates in a transparent way that the degree to which the knowledge possessed by individuals is *theoretical* determines the degree of elevation of the positions held in the industrial space. In Bourdieu's view, this *theoretical* principle would reintroduce into the system of organisational relations the system of class relations.

Kellaghan's comparative review of vocational education reveals the usual difficulties of definition. An idealised description of the characteristics of an individual who has been prepared for work is given:

1. Basic competencies in literacy, numeracy, science and information technology.
2. The ability to apply the knowledge and skills which have been acquired in school or training in the work situation.
3. The ability to work with others and a sense of responsibility.
4. Positive attitudes towards flexibility, innovation and entrepreneurial activity.
5. General and specific knowledge and skills relating to a particular occupation which are acquired in special training or apprenticeships.[182]

This formulation contains a modern definition of mass literacy in an industrial society (point 1), a description of a set of dispositions which are transferable to locations outside of the place where they have been acquired (points 2, 3, and 4), and a requirement for training specific to a particular occupation (point 5). In historical terms, points 1, 2, and 3, suitably adjusted, could come from *Memo V. 40* and its description of continuation education; point 5 could be taken from the 1930 *Vocational Education Act*'s description of technical

[182] Ibid., p. 97.

education; while point 4 has the flavour of that which was thought specific to manual instruction in secondary education by the Council of Education: not only the use of tools and materials, but the development of self-reliance, resourcefulness, and initiative; that is, those attributes characteristic of a person entitled to a position of authority. Seen in these terms, this idealised description of the characteristics of an individual who has been prepared for work is a combination of two historically different persons: the operative and the administrator, producing, as it were, an operative with a super-ego, or an industrial puritan, who not only carries out tasks, but finds new ones, and solves them. The aims of the industrial enterprise are interiorised as personal aims by means of a cultured competency. This "active participation by the faithful" marks, in cultural terms, a form of Reformation.

Kellaghan's review of vocational education in Ireland is revealing in its failure to understand the difference between practical and academic technical knowledge, as in the characterisation of the LCV programme as a more practical, vocational option. This is carried through to Kellaghan's questioning of the IPRG's claim that second level education was becoming progressively more academic in nature, doubting that this could be sustained by statistical evidence. This entirely misses the point of the IPRG claim. From the 1960s there has been a continual failure on the part of students to take technical subjects at Leaving Certificate level in large numbers. The usual explanations have centred around lack of teachers or equipment or disdainful attitudes towards technical education. What escapes commentators on these matters is the possibility that the academic technical subjects at Leaving Certificate *might be more difficult* than other, traditional, subjects, in which, under examination conditions, it might be possible to create the illusion of possessing a passing knowledge of the subject. The behaviour of students, in this analysis, may be entirely logical. The IPRG makes different mistakes: there is a continual confusion of academic technical, academic general, and practical knowledge; but the thrust of the IPRG argument is correct: students, when given a choice, have veered away from practical and academic technical subjects towards general academic subjects. This trend has been identified by Finegold and Soskice, Bierhoff and Prais, and by Barber. For some students, this has produced outcomes that are entirely unsatisfactory, but responses to this do not simply consist in raising the status and quality of technical education, and of practical and trade skills, but in understanding that these students may be maximising personal outcomes under the present system of examinations and organisation of subjects - the certification effect.

The *Moriarty Report* and the *Green Paper* reveal a continuity of thought: there will not be a dual-track system of post-primary education in Ireland. The NESC oppose the implementation of the IPRG proposals on the grounds that it would represent a total reversal of policy, which, for the previous twenty years had sought, it is stated, to "remove the distinction between the old secondary and vocational schools".[183] By contrast, the aim of policy has been interpreted in this work as an historic compromise between church and state, represented by the agreement, at the first level of negotiation, of the deeds of trust of the community schools. This interpretation draws on Gellner's analysis of the interaction between nationalism, industrialisation, and religion; and Bourdieu's view that the churches have acquired a *state clientele* in the form of the teachers, cleaners, porters, and others who find employment within a community school imbued with that *ethos* that marks out entitlement to employment. The establishment of a dual-track system would raise once more the issue of diminishing the extent of such *state clientele*. Furthermore, the recommendation by *Moriarty* that the range of subjects on offer should be rationalised and simplified, seems to be designed to permit secondary schools, with limited numbers of teaching staff possessing technical knowledge, to participate fully in the new arrangements. Who else would benefit from such a measure?

In Gellner's view, high religions can become the "basis of a new collective identity in the industrial world" through the promotion of a high, *inclusive*, national culture. There is, however, a cost. The high religion makes a transition from a "culture-religion" to a "culture -state".[184] In agrarian societies, "doctrine has absolutist pretensions...that it is the very *norm* of truth"; in industrial societies, based on economic and *cognitive* growth, all substantive conviction about the world is "de-absolutized", and its assertions are subject to neutral scrutiny".[185] In consequence,

> The price these high cultures pay for becoming the idiom of entire territorial nations, instead of appertaining to a clerkly stratum only, is that they become secularised.[186]

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[183] Ibid., p. 123.

[184] E. Gellner, *Nations and Nationalism*, p. 72.

[185] Ibid., p. 78.

[186] Ibid.

The status of the Leaving Certificate, the legitimacy of the schools, and that of the Roman Catholic church, have all been harnessed to produce the status-bearing, technically-oriented programme (the LCV) much demanded by industrial interests. In this sense, vocational education now means an orientation towards the technical, but academic, subjects of the Leaving Certificate, plus the additional "modules" or units of instruction and activity which are to address *attitudes* towards, and knowledge of, employment, business and entrepreneurial activity. The more occupationally focussed programmes, typical of a more traditional understanding of vocational education, are to take place after the end of the Leaving Certificate programme, via PLC, FÁS, or third-level courses.

Lynch and the NESC, from differing perspectives, have queried whether the extent of these measures is justifiable. In the NESC's view, the provision seems to exceed that of the European norm by two years. In Lynch's view, the purpose is, as it were, to paint in a backdrop from which a technological elite will emerge without causing comment. Bourdieu's analysis suggests that it may be productive to exaggerate the amount of technical training required by industry, in order to give a rational reason for the period of time students spend in school, where the real lessons of legitimating the social hierarchies may be learned. Such practical or technical knowledge as is then offered in school will be promptly turned into theoretical knowledge, ensuring that, despite some casualties, the social order will again be reproduced through the differential rates of success experienced by students at these subjects. To Bourdieu's analysis, based on research in France, this work adds a further element related to the Irish experience, based on Gellner's analysis of nationalism, industrialisation, and religion: what is proving so expensive in terms of time spent in school is the secularisation of Irish society and the transformation of the churches into clients of the state. The Assistant Secretary of the Irish Department of Education may admittedly have been speaking too soon when he wrote in 1968 that

> The lay secondary teacher remains always the hired man. His responsibility ends at the classroom door. He is consulted with, of course, because he may have something to offer, but he is never part of the decision-making. If he wants authority so that he may innovate, experiment, he must go elsewhere. The findings of the recent salary tribunal, if accepted, will not of themselves change the real situation. It is a frustrating situation for the good teacher. Is the situation responsible, at least in part, for keeping the high-class graduate out of education? The vocational schools have not yet reached their full stature and still rank as junior schools; in a couple of years, when they have senior cycles as well as junior, these schools will be able to offer responsibility and challenge to the able and ambitious lay teacher.

> I lay stress on these things because I believe a change must be made; otherwise there will be an explosion, maybe sooner than later. No one wants to push the religious out of education; that would be disastrous, in my opinion. But I want them in as partners, not always as masters.[187]

This is a very interesting opposition: *master to hired man.* The state appears to be warning the church that the *clientele* is becoming restive, and that the churches must be prepared to match conditions of employment *and promotion* between the secondary schools and the state sector. In replying to the Assistant Secretary's remarks, the Executive of the Teaching Brothers' Association, in contesting most of what had been written, indicated that the religious schools were already having difficulty in attracting *specialist* teachers:

> they can pick and choose their posts; it is practically impossible to attract them to the more remote areas. We can instance a recent example where an advertisement for a French teacher brought fifteen replies, but when the location of the school became known not one of them would accept. It is significant that the State is prepared to offer extra emoluments to such teachers in comprehensive schools, while, according to the findings of the latest Salaries Tribunal, it is recommended that secondary school Managers be forbidden to do so.[188]

It is interesting that a teacher of French is considered to be a *specialist* teacher, as opposed to a *generalist*, perhaps? Moreover, in commenting on the proposed Regional Technical Colleges, intended at that stage to provide superior technical education for the age group in excess of sixteen years, the Executive of the Teaching Brothers' Association comments:

> We welcome the coming of the technological college and have felt the need of such establishments, at suitable centres, for many years. *We are of the opinion that their rightful place in the scheme is at post-Leaving Certificate level.*[189]

This proposal shows an interesting similarity to that of the Moriarty Report, whose recommendations in this regard were made at the behest of the Department of Education, and specifically pertained to the choice of subjects in *secondary schools.*[190]

[187] S. O'Connor, "Post-Primary Education: Now and in the Future", *Studies* (Autumn 1968), 249.

[188] Executive of the Teaching Brothers' Association, "Reply 4", *Studies* (Autumn 1968), 279.

[189] Ibid., p. 276. Emphasis added.

[190] Task Force on the Implementation of the Industrial Policy Review Group's Recommendations, *First Report* (Dublin: The Stationery Office, 1992), pp. 38 - 39.

These elements of analysis would suggest that the outcome of such a lengthy period of schooling will be a highly socialised population imbued with a shared industrial and religious culture, that is, a *national* culture.

The NESC follows the prediction of Kellaghan and Lewis that the measures proposed in the *Green Paper* will produce an education in post-primary schools that is more general than vocational in mix; the vocational component "will more realistically be directed towards making students generally adaptable in the work environment as well as, perhaps, providing them with applicable skills (e.g. keyboard skills)".[191] Is this vocational component the *generic* training claimed by Gellner to exist in industrial societies? For Gellner, as discussed above, generic skills are broadly defined as "literacy, numeracy, basic work habits and social skills, familiarity with basic technical and social skills", and are intended to be acquired and internalised by students as the "basic idiom, ritual and skills" common to industrial society.[192]

The NESC sees the task of engaging 90% of the age group 16 - 18 years in post-primary education as formidable. The pedagogic experience gained from VPT and the Senior Certificate programmes is seen as valuable in taking account of the needs, achievement levels, and learning styles of students. This need for attention to the needs of individual students was voiced in the OECD report, and has been characterised as explicit pedagogy in this work. Assessment procedures should conform to contemporary understanding of what they are expected to do, the NESC argues. The academic verdicts to be uttered now are intended to promote labour mobility, by *accurately* indicating the standard of knowledge students possess *now*. This represents a saving to employers, if the assessment is accurate, and serves also as a marker to the individual that further progress to higher standards of training and qualification is possible. Such assessments also provide criteria for monitoring the performance of training institutions. Thus, unlike the verdicts of general education, which are intended to last, the verdicts of industrial training are somewhat like those of a driving test examiner.

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[191] T. Kellaghan and M. Lewis, *Transition Education in Irish Schools* (Dublin: The Education Company, 1991), cited in National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 223.

[192] E. Gellner, *Nations and Nationalism*, p. 27.

The NESC review of disadvantage concludes that increased retention rates in Ireland have led to a decline in the vocational education sector. What is presumably meant here is that the take-up of practical subjects at junior cycle, and academic technical subjects at senior cycle has declined. Whether this is the Irish equivalent of the trend detected by Bierhoff and Prais, that an egalitarian approach to education which sees students studying the same course produces a general academic education for all, is left an open question.[193] Interesting evidence of another reading of this trend came from other commentators, earlier, in 1970-71, when it was argued that the establishment of the community schools under the deeds of trust would "weaken the vocational system and transform the proposed community schools into denominational institutions"; a point of view made by "a number of prominent clergymen from all the churches and religious groups", and representing, for O Buachalla, a rare element of clerical dissent.[194] This is further evidence that teachers employed in such schools would need to address the denominational *ethos*, in some way, in their applications for employment.

The important features of the proposed LCA programme, for the NESC, are that it is totally distinct from the traditional Leaving Certificate and the LCV programme, and that its methodology and principle of organisation have been inherited from the Senior Certificate programme. The NESC is pessimistic about outcomes, arguing, as it were, that a social market, or sub-market, in *further* education and training must be created, in which the LCA certificate is recognised as the sole form of capital; for without the LCA certificate leading to worthwhile employment prospects, many students will continue along the dismal route to six bare passes at Ordinary level in the Leaving Certificate. This approach is interesting because, without *ever explaining why* students continue to follow these pass courses, a measure is proposed which will effectively bar the pass course as a route to further training. In consequence, this proposed measure would be likely to be more successful than perhaps the NESC realise, for, within the terms of the analysis given in this work , many of the students taking the pass courses in general subjects would not be able for the limited level of technical knowledge in the LCV programme. If the LCV and LCA programmes are the only ones which give access to further training outside of third-level, such as PLC courses, then

[193] H. Bierhoff and S. Prais, "Britain's industrial skills and the school teaching of practical subjects: comparisons with Germany, The Netherlands and Switzerland", *National Institute Economic Review,* Number 144, May, 1993, pp. 55 - 73, cited in National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 161.

[194] O Buachalla, *Education Policy*, p. 220.

the LCA will be used not simply by those students who are allocated to it, as a matter of course, but also by those students who would not be able to pass the technical subjects in the LCV. In this regard, a certain vigilance may need to be exercised to ensure that the technical knowledge content of the LCV is maintained.[195]

In the *distinct* nature of the LCA might be caught an echo of proposals of The Conference of Convent Secondary Schools in the 1940s that there should be two Leaving Certificate courses, one to cater for the intellectual 20% and the other designed for the needs of the majority. The examination process for the latter course was to include as an essential element a certificate of personal reliability and efficiency awarded by the school authorities, based on records kept by the school.[196] Proposals to deal with these issues included building "vocational blocks" (i.e. *separate* buildings) as additions to secondary school premises.[197] What is different, of course, is that the proposals of the 1940s related to the academically dominated fraction within the group of secondary school *girls*, whereas the LCA proposals relate to a more contemporary form of academically dominated group.

The credential effect is considered by the NESC, and the approach taken seems to conform to functionalism, characterised by Drudy and Lynch as a concern with social stability, social mobility, the waste of abilities, and the rational use of skills and knowledge in industry.[198] Credentialism, in the NESC view, not only mismatches the employee with the occupation, but distributes unemployment unequally within society. If the more powerful had to address unemployment personally, then, the argument goes, there would be a greater social consensus in introducing measures to lower unemployment.[199] In any case, the more socially powerful are better educated and in consequence are better positioned to develop enterprises and create self-employment.[200] Leaving to one side the question of the existence of the political will to implement such measures, and the balance of power between political

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[195] See next section.

[196] *Annual Report* , CCSS 1945, 39, cited in O Buachalla, *Education Policy*, pp. 152.

[197] Ibid.

[198] S. Drudy and K. Lynch, *Schools and Society in Ireland*, pp. 34 - 35.

[199] National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 189.

[200] Ibid.

parties and, ultimately, the social groups they represent, this proposal appears to work against the aim of social mobility by making the choice of school programme, LCA or LCV, as against the traditional Leaving Certificate, a choice of occupational destination. Another way of saying this is that the the highly restricted degree of social mobility in Irish society might be revealed, as contested by the work of Whelan and Whelan, on one hand, and Greaney and Kellaghan, on the other.[201]

The LCV and LCA programmes have been identified as emerging from the policy differences represented in the Culliton and Moriarty reports. Attention now turns in this work towards obtaining as precise a description as possible of how these programmes emerged.

[201] Christopher T. Whelan and Brendan J. Whelan, *Social Mobility in the Republic of Ireland: A Comparative Perspective*, ESRI Paper No. 116 (Dublin: Economic and Social Research Institute, 1984). Vincent Greaney and Thomas Kellaghan, *Equality of Opportunity in Irish Schools* (Dublin: The Educational Company, 1984).

5 THE DEVELOPMENT OF THE LCA AND LCV PROGRAMMES

5.1 Introduction

The emergence of the LCA and LCV programmes may be charted through an examination of the following public policy documents: *Education for a Changing World - Green Paper on Education*[1], *Circular M.31/93: Senior Cycle Options - Interim Arrangements for pupils entering Senior Cycle in September, 1994*[2], *Circular M47/93: Revised Structure and Content of the Senior Cycle Curriculum September 1995 and subsequent years*[3], *Assessment and Certification in the Senior Cycle - Issues and Directions - A Consultative Paper*[4], *Leaving Certificate Applied Programme: Rationale, Philosophy and Operational Plan*[5], *A Programme for Reform - Curriculum and Assessment Policy towards the New Century.*[6]

The LCA is the newer of the two programmes and may be seen to be taking shape in the course of the review given here. The composition of the body set up to establish the LCA is given. Further information about the LCA is provided on the basis of notes taken by this author at a conference organised by the Irish Association for Curriculum Development (IACD) on the 15th of October, 1994.

5.2 The Green Paper

Government policy, as set out in the *Green Paper*, appears to be shaped by a variety of

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[1] Government of Ireland, *Education for a Changing World - Green Paper on Education* (Dublin: The Stationery Office, 1992).

[2] Department of Education, *Circular M. 31/93: Senior Cycle Options - Interim Arrangements for pupils entering Senior Cycle in September, 1994* (Dublin: Department of Education, July, 1993).

[3] Department of Education, *Circular M47/93: Revised Structure and Content of the Senior Cycle Curriculum September 1995 and subsequent years* (Dublin: Department of Education,November, 1993).

[4] NCCA, *Assessment and Certification in the Senior Cycle - Issues and Directions - A Consultative Paper* (Dublin: NCCA, 1993).

[5] NCCA, *Leaving Certificate Applied Programme: Rationale, Philosophy and Operational Plan* (Dublin: NCCA, 1994).

[6] NCCA, *A Programme for Reform - Curriculum and Assessment Policy towards the New Century* (Dublin: NCCA, 1993).

political, economic, and social considerations. To these are added the lessons learned from pilot projects and other research. The application of this 'world-view' to present circumstances appears to give rise to policy objectives, and the allocation of tasks to existing or developing agencies. The particular issue of vocational education and training is addressed, and the opportunities for European funding for such programmes; emerging norms in practice in OECD countries are discussed.

Student statistics for 1965, 1991, and projected figures for 2001 give the following picture:

Projected trends: *Number of students ('000s)*

	1965	1991	2001
Primary	505	553	421
Secondary	143	332	334
Vocational Training	----	15 (1.54%)	30 (3.4%)
3rd. Level	21	70	100
	669	970	885

Table 5.1 Student Enrolment for 1965, 1991, and Projected Enrolment for 2001[7]

Key characteristics of the 1992 student cohort are identified in the *Green Paper.*[8] Ninety-three percent of 16 year olds were in full time education, as were seventy-five percent of 17 year olds and fifty percent of 18 year olds.[9] Seventy-three percent of those who entered senior cycle completed it, twenty-seven percent did not. Forty percent of the cohort proceeded to third-level, while twenty percent went to post second-level vocational/training programmes within the school system.[10]

A policy target set for 1999 was that ninety percent of the age group would complete the senior cycle. By 1995, forty-five percent of the cohort would go to third-level, and twenty-

[7] Government of Ireland, *Education for a Changing World - Green Paper on Education* , p. 36.

[8] Ibid.

[9] Ibid.

[10] Ibid.

five percent would go to post second-level training programmes.[11] One of the reasons for such increases is identified to be the need to meet government obligations to the social partners under the PESP agreements.[12] Such increased participation rates are "one means of attaining the goal of providing the opportunity for all to develop their educational potential...increasing participation rates in 16-18 year old cohort by providing a range of educational and training programs suited to their identities and aptitudes".[13] A specifically economic aim is indicated by the remark that the education these students should receive should seek to create "an ethos of creativity and innovation to equip students for life in a rapidly changing society, confronted by major social and economic problems by....development of: critical thinking and the problem solving capabilities in students at all levels and as part of all programmes, including the more general academic programmes and the specifically vocationally oriented ones".[14]

Educational deficits in the Irish workforce are examined. The 1990 Labour Force Survey had found that 50% of unemployed males had only primary education; 82% of male unemployed had an Intermediate Certificate (or less) level of education, while 62% of female unemployed had an Intermediate Certificate (or less) level of education.[15] It appears that initiatives additional to the work of the regular school system are required in order to change the educational profile of new workers entering the labour market and hence avoid the unemployment trap. Youthreach and an "area-based strategy" are proposed, using the outcomes from "home/school" projects.[16]

The Youthreach programme is aimed at school leavers aged 15 years. The programme consists of a two-year integrated education, training and work experience programme in two parts: a Foundation Year, and a Progression Year. The programme is provided by FÁS and

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[11] Ibid., p. 37.

[12] Programme for Economic and Social Progress.

[13] Ibid., p. 38.

[14] Ibid., p. 39.

[15] Ibid., p. 46.

[16] Ibid.

VECs in out of school settings and Community Training Workshops.[17] Evidence from the first Youthreach programmes revealed that the "level of disadvantage is greater than originally anticipated...more counselling and...special literacy and numeracy tuition are required", using area-based strategies and teachers seconded from VECs.[18]

The issue of increasing transfer rates to third-level education is also to be addressed. "Students from disadvantaged areas will be facilitated in every way to participate in post-second level VPT programmes. Special access courses will be provided, where required, for students who may need particular assistance before they begin any of these programmes. New arrangements for the national certification of such programmes will make them more attractive and provide routes to third-level".[19]

Issues relating to gender are mentioned. "Education and training must play a crucial part in the development strategy of the EC...and contribute to the breaking down of stereotypes".[20] It is noted that in Ireland, "a very low proportion of girls...receive places on apprenticeship training schemes...and at third-level (there are) low numbers in certain disciplines".[21]

The influence of European initiatives on Irish policy formation is clear. The structural funds offer the possibility of "support for education, training, training innovation, and research and development". EU programmes in education and training are listed: ARCON, COMETT, ERASMUS, EUROFORM, EURYDICE, HELIOS, LINGUA, PETRA. The possibility that such funds may be spent only in certain ways is perhaps hinted at in the remark that "Article 128 of the Treaty of Rome confers powers on the community in relation to laying down general principles of implementing a common vocational training policy".[22]

The Department of Education's participation in the Structural Funds is said to amount to

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[17] Ibid., p. 59. FÁS is an official agency responsible for industrial training. VEC is a vocational education committee.

[18] Ibid., p. 60.

[19] Ibid., p. 53.

[20] Ibid., p. 67.

[21] Ibid., p. 69.

[22] Ibid., pp. 77-78.

"£100 million per year in the period ending 1993". The funds support a "range of training measures in institutions under the Department's aegis for young people who have completed compulsory schooling.....includes VPT and Certificate and Diploma courses in third-level institutes....and postgraduate...and initiatives for long term unemployed... and young people who leave school without qualifications".[23]

Specific agencies will have certain tasks. There will be a "particular role for the NCVA[24] (and CEVA[25] eventually) in ensuring that qualifications are fully compatible with and of equal, or higher, standard to those in other EC countries".[26]

The possibility of Structural Fund aid after 1993 is discussed. The "implications of social mobility on greater convergence in training policy and practice between member states" raises the issue of the monitoring of ESF supported courses. CEVA "will ensure that all existing programmes, including those of second-level, are of the highest standard, and that appropriate certification, to community standards, is available to all participants".[27]

Support from Structural Funds will be sought for initiatives in vocational education and training:

> expanding existing provision and upgrading training infrastructure including establishment of technology centres...targeting needs of disadvantaged persons, especially early school-leavers and those needing second chance vocational education and training...increased access to further skill training for those needing retraining or upgrading of skills...formal links between programme providers and social partners, especially in industry and business (culture of enterprise)...developing vocational education and training, including certification and the harmonisation of qualifications...expanding the range of eligible courses, especially at third-level, to include many currently not eligible for support from the Funds.[28]

The views of the Irish business world are recorded as seeing some lacks in many Irish

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[23] Ibid., p. 79.

[24] National Council for Vocational Awards.

[25] Council for Educational and Vocational Awards.

[26]Government of Ireland, *Education for a Changing World - Green Paper on Education* , pp. 79-80.

[27] Ibid., pp. 81-82.

[28]Ibid., p. 82.

young people: the range of their technical skills, communication and other interpersonal skills, critical thinking, problem solving ability and individual initiative required in an enterprise culture, and language skills.[29] Encompassing both the preparation for work and for life, a need is identified for the student to acquire

> * An ability *to manage oneself* and to make the most use of personal resources.
> * An ability to express one's own viewpoint *rationally*.
> * An ability to *relate effectively to other people*.[30]

Such work of preparation is hindered by an education which emphasises the "acquisition of facts rather than critical thinking".[31]

The discussion of the need to broaden the curriculum, a term embracing "the content, structure and processes of teaching and learning", includes a distinction between *specific* and *implicit* elements:

> The specific elements are those concepts, skills, areas of knowledge and attitudes which children learn at school as part of their personal and social development. The implicit elements are those factors that make up the ethos and general environment of the school.[32]

Thus the *specific* is that which children acquire in school, and the *implicit* is that which surrounds them in school. This distinction is immediately followed by

> The curriculum includes a range of activities to develop students' potential and to promote their moral and spiritual values. The aim is to provide a broad general education up to the end of the senior cycle, including the areas of language, mathematics, science and technology, the human environment, the arts, physical education, and political and social awareness.[33]

This clarification would appear to reverse the order of the previous distinction; these are the *implicit* and *specific* elements of the curriculum.

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[29] Ibid., p. 85.

[30] Ibid. Emphasis added.

[31] Ibid.

[32] Ibid., p. 86.

[33] Ibid.

Continuity between the curriculum of the primary school and the junior cycle of the post-primary school is stressed, while at the senior cycle

> a combination of an effective foundation of general education and a strengthened vocational orientation will form the basis for development.[34]

The junior cycle of post-primary schooling has "the primary objective" of having students complete a "broad and balanced course of study" and the achievement by them of "a level of competence" which will permit progress to senior cycle education. The suggestion of the NCCA that the junior programme should include as core (presumably *compulsory*) subjects "Irish, English, Mathematics, History and Geography or Environmental and Social Studies,... and Science or a Technological Subject", is amended to read that Science and a new joint subject named *Enterprise and Technology Studies* form part of the core.[35] The new subject is characterised by problem-solving, task completion, group work, and active participation by the students; and is said to provide "a unique opportunity" for such developments.[36] Lest there be any doubt in the matter, it is pointed out that this new subject will be *obligatory*, as are all the subjects of the core, "regardless of gender or ability level".[37] Underpinning efforts in all curricular areas, there will be a "continued emphasis on oral and written communications skills and numeracy, while "education for enterprise" is also defined as "essentially a cross-curricular theme".[38] Religious Education is discussed in the same paragraph as Physical Education and promoting health education, and the desire is expressed that students "are exposed to subjects, such as Art and Music", so as to develop their expressive abilities.[39] "Active involvement in the life of the school" by students is to be promoted through the establishment of Students' Councils, which may "provide a better focus for achieving social and political awareness" than the study of a subject such as Civics.[40] Finally, a variety of measures to address "disadvantaged areas" are proposed, to

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[34] Ibid., pp. 86 - 87.

[35] Ibid., pp. 94 - 95.

[36] Ibid., p. 95.

[37] Ibid.

[38] Ibid., pp. 95 - 96.

[39] Ibid., p. 96.

[40] Ibid.

ensure that students from such areas "are provided with basic standards of literacy, numeracy and other relevant competences before leaving the education system'.[41]

Turning to the senior cycle, the *Green Paper* discusses matters that are by now familiar issues in the present work: some 15% of all the students who took examinations in at least five subjects in the Leaving Certificate of 1991 failed to obtain five grade Ds; the dissatisfaction of many secondary school principals and students with the "suitability and relevance" of the programme is recorded.[42] In particular, the experiences of students following "pass" level is contrasted, in which the dissatisfaction of those who had followed a "broad general education" is set against the experience of those who had followed courses at "pass" level, but with "vocational or technical options"; these latter

> were almost as satisfied as those who performed well at honours level in academic subjects.[43]

The problem of how, "within a broadly based education for all, to maintain and enhance standards of general education as an essential basis for the development of higher level skills and competences," [44] is addressed through recourse to the *OECD Report*, a report discussed above:[45]

> a high quality of basic education is an essential prerequisite for a vocationally skilled and adaptable labour force.[46]

An event of interest here is the fate of the phrase "basic education" in all subsequent discussion in the *Green Paper*. It is clear from a careful reading of this section that the response to the "priorities mentioned and the various findings", which include the demand

[41] Ibid.

[42] Ibid., p. 98.

[43] Ibid., citing D. Hannan and S. Shortall, *The Quality of their Education: School Leavers' Views of Educational Objectives and Outcomes.*

[44] Government of Ireland, *Education for a Changing World - Green Paper on Education* , p. 98.

[45] See previous section.

[46] Organisation for Economic Cooperation and Development, *Reviews of National Policies for Education: Ireland*, op. cit., p. 11 cited in Government of Ireland, *Education for a Changing World - Green Paper on Education*, p. 98.

from Irish industry for

> oral and written communication skills, numeracy and foreign language skills, problem-solving, enterprise, initiative and creativity,

and to international experience, which

> reinforces the view that the most important work-related competences are the ability to communicate clearly orally and in writing and to use mathematical and scientific skills to analyse and solve problems,

is that

> a combination of an effective foundation of general education and a strengthened and expanded vocational orientation will form the basis for the development of programmes within a revised senior cycle structure.[47]

The question arises as to which of "general education" or "vocational orientation" addresses the need for "a high quality of basic education"? If one is an "education" and the other an "orientation", then surely "an effective foundation of general education" refers to and includes the OECD's "high quality of basic education".

The *Green Paper*'s authors 'think aloud', as it were, through the variety of possibilities on offer from the NCCA and other bodies. These possibilities are summarised as follows[48]:

> NCCA Recommendations:
>
> Students to take courses from within two national programmes - the Leaving Certificate and the Senior Certificate.
>
> The Leaving Certificate would continue to be a 2-year programme.
>
> The Senior Certificate would also continue to be a 2-year programme, in two modules of one year each and with certification available at the end of each year.
>
> Students would be allowed to choose courses from both the Leaving Certificate and Senior Certificate in any one year.
>
> A number of options would be available to students progressing through senior

[47] Government of Ireland, *Education for a Changing World - Green Paper on Education* , p. 99.

[48] Ibid.

cycle.

> There should be a Certificate of Senior Cycle Education which would record the achievements of students under the Leaving Certificate and/or the Senior Certificate.

The authors of the *Green Paper* comment, however, that

> in view of the strong traditional attachment of parents and students to the Leaving Certificate, there is merit also in providing for all options and all ability levels within the Leaving Certificate, rather than through the alternatives of Leaving Certificate and Senior Certificate. Such an approach would also help to alleviate the practical problems that are likely to emerge in seeking to implement a range of options with two alternative streams.[49]

The problems of accommodating all ability levels within Higher and Ordinary levels for all subjects of the Leaving Certificate examination are considered, with an indication that the NCCA has "considered and rejected

> a third or foundation level across all subjects, because it "would not, in itself, provide for those who currently find the Leaving Certificate unsuitable. This view is particularly valid if a foundation course were to be constructed simply as a lower version of the ordinary syllabus.[50]

Any "alternative" provision, that is, alternative to a third level, it is argued, would have to be "in the form of less academic courses", such as the Ordinary Alternative course in mathematics provided by the NCCA. Based on the experience of this new syllabus, the advice of the NCCA was to be sought as to the desirability of pursuing this route "in other core subject areas", in lieu of Senior Certificate courses.[51]

Neither alternative courses nor Senior Certificate courses are said "normally to form a basis for third-level entry" but are thought to lead on to appropriate vocational education and training programmes, which, in turn, for "more successful candidates" would lead to third-level courses.[52]

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[49] Ibid., pp. 99 - 100.

[50] Ibid., p. 100.

[51] Ibid.

[52] Ibid.

A third model considered was that of a three-year Leaving Certificate, with the possibility of shorter "modular" courses being developed and provided for those students for whom "it would not be feasible, nor perhaps necessary" to take up the full subject.[53]

The recommendations of the IPRG Report are discussed, but the intention is clearly not to establish a dual system within post-primary education, as in Germany and Switzerland, but to expand the LCVP (Leaving Certificate Vocational Programme), involving Higher or Ordinary level subjects of the Leaving Certificate, from 5% of the cohort to 30% from 1994. It is pointed out that

> in Sweden and Japan, vocational training is normally begun after the age of 18, and this appears to be an emerging trend in other countries also, including Germany.[54]

This trend seems to have escaped the attention of the IPRG, the NESC, and Kellaghan, with the latter certainly detecting a trend to delay the beginning of the parallel track *until after 16 years of age*.

A review of the nature and content of the vocational and technical subjects which could be included in the LCV programme "will be undertaken with the NCCA and CEVA. The programme's vocational orientation and options would be further reinforced in the Senior Certificate or in any alternative Leaving Certificate courses developed in the future".[55] Presumably the LCA (Leaving Certificate Applied) programme would fall under such a heading.

The implications of a multiplicity of programmes at senior cycle for school size and rationalisation are considered. A variety of other factors are identified which tend to accentuate the process of rationalisation. These are

> declining enrolments in particular areas and the continuing decrease in the involvement of the religious in the ownership and management of schools.[56]

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[53] Ibid., p. 101.

[54] Ibid., p. 102.

[55] Ibid.

[56] Ibid.

This reflects a larger concern in the *Green Paper* that a unified form of management structure should be implemented in Irish post-primary schools:

> The present diversity of school type at post-primary level stems from the decisions taken to establish particular forms of school management and organisation appropriate to the needs of the time. Thus, we now have comprehensive schools, community schools and community colleges, as well as the more traditional secondary and vocational schools. Each type seeks to offer a broadly based education for all, but with different types of management structure and varying levels of delegated authority. In view of the common objectives of these second-level schools, it is timely to consider whether a common form of management for all, representative of concerned interests, might not be more appropriate for the future.[57]

The vocational orientation of educational programmes is to be strengthened. "Vocational modules coupled with a work experience module, would be prepared by the NCVA. Certification of the skill modules would be provided initially by the NCVA for inclusion in the Leaving Certificate and Senior Certificate where appropriate....Technology centres (could) serve the expansion of LCVP in a variety of areas".[58] In general terms, the policies in vocational education and training are aimed at producing

> broad general education through which they (young people) acquire a wide base of transferable skills...(skills enable) adaptation to the constantly changing circumstances. While the changes proposed for the senior cycle are intended to provide a sound basis of general education for all students, the vocational orientation and provision for technical subjects within programmes at this level will be reinforced and expanded.[59]

Training is to be broad-based, rather than job specific. The "spirit of enterprise and a flexibility of approach to problem solving" are to be emphasised. Standards of general education are to be maintained and enhanced, as "an essential basis for the development of higher level skills and competences ". The overall aim is said to be that of promoting the

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[57] Ibid., p. 140.

[58] Ibid., p. 103.

[59] Ibid., p. 110. "...the emphasis in the vocational training process is not to give trainees narrowly defined skills. It is more to give a broad occupational training with stress on theoretical understanding as well as practical skills, which will provide the basis for subsequent further training as skill requirements change and become more complex. The idea is to enable skilled workers both to meet current needs and be capable of adapting to the uncertain needs of the future...There are two implications here: that the theoretical content of training is accorded importance. And that the role of education proper, as opposed to vocational training, is reasserted. Increasingly both implications are being realised in education and training in the northern European countries." David Soskice, "Skills in a Changing World", *Arena*, January, 1992, p. 28, cited in Government of Ireland, *Education for a Changing World - Green Paper on Education*, p. 111.

achievement of high skill levels. A "strengthened relationship between the educational and training systems and the economy" is to be provided, so that "the providers of education and training can obtain immediate and clear information on the nature, scope and extent of skills required for economic growth and development".[60]

Proposed developments in Vocational Education and Training include a "more cohesive, modularised and graduated system...a coordinated set of national arrangements for the provision of vocational training programmes, and the assessment, certification, and accreditation of levels of knowledge, skills and competences attained". Such arrangements are intended to enhance the "transfer of students between programmes, the credibility and acceptability of qualifications, and the mobility of personnel in the wider European labour market". To achieve this objective, proposals for discussion are the development of VPT2 (ie post Leaving Certificate) programmes along Dual System lines (practical vocational training is given at work, backed up by theoretical training and general education provided in vocational training schools); courses at lower levels than VPT2, which provide stepping stones to higher levels; cooperation between FÁS and the formal education system to ensure "a sound educational and theoretical underpinning"; and CEVA to replace NCEA, and to provide an effective system of certification.[61]

5.3 Circular M. 31/93 and Circular M. 47/93

An examination of the circulars from the Department of Education concerning the Leaving Certificate Applied Programme (LCAP) reveal how the policy discussions came to be implemented. The discussions set out in the *Green Paper* are dated June, 1992, but in July, 1993, in *Circular M. 31/93 : Senior Cycle Options - Interim Arrangements for pupils entering Senior Cycle in September, 1994*, it is stated:

> The Leaving Certificate will continue to be a two-year course. Pupils may spend three years in senior cycle, however, through a variety of options. These options are intended to provide maximum flexibility in the senior cycle in catering for the

[60] Ibid., p. 111.

[61] Ibid., pp. 114-115.

different aptitudes, abilities and needs of pupils.[62]

Moreover

> It has been a feature of the senior cycle system that no qualification bars have been in place to prevent pupils from entering for and being prepared for the Leaving Certificate. This will continue to be the case. Even where pupils would appear to be more suited to a less academic programme than the Leaving Certificate, it is essential that each pupil wishing to do the Leaving Certificate is given this opportunity. In addition, other Programmes such as the Vocational Preparation and Training Programme and Senior Certificate will continue in the interim period to be available as alternatives to the Leaving Certificate. From 1997 onwards the Leaving Certificate will as indicated be awarded at three levels Higher Level, Ordinary Level and Senior Level.[63]

The term "senior level" appears to reveal that the Department had opted for a third level within the traditional Leaving Certificate as the mechanism with which to promote increased participation rates. By the time *Circular M47/93: Revised Structure and Content of the Senior Cycle Curriculum September 1995 and subsequent years* was issued, the policy had changed again:

> Pupils may spend up to a maximum of three years in senior cycle. They may, for example, follow a two-year Leaving Certificate programme immediately after Junior Certificate or they may opt to follow a Transition Year programme prior to a two-year Leaving Certificate. These options are intended to provide maximum flexibility in catering for the different needs, aptitudes and abilities of pupils.
>
> The Leaving Certificate Applied Programme will be available from September, 1995. This will be a self-contained two year programme replacing and expanding on the existing Senior Certificate and Vocational Preparation and Training Programme One. This new programme cannot be taken in conjunction with Leaving Certificate subjects at Higher, Ordinary or Foundation levels. The programme is presently being prepared by the National Council for Curriculum and Assessment. The programme will allow for adaptation to the particular needs and circumstances of the local environment.
>
> The Leaving Certificate Applied Programme will be an option for those who do not wish to proceed directly to third level education or for those students whose needs, aspirations, aptitudes or abilities are not adequately provided for by the other Leaving Certificate programmes. Pupils, who successfully complete the programme, could proceed to Post Leaving Certificate Courses (PLC), subject to any special entry requirements for specific courses. It is intended that the Applied Leaving Certificate will be fully integrated into the envisaged system for certification of

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[62] Department of Education, *Circular M. 31/93: Senior Cycle Options - Interim Arrangements for pupils entering Senior Cycle in September, 1994* (Dublin: Department of Education, July, 1993), para 4.

[63] Ibid., para 7.

> educational and training qualifications as outlined in Chapter 8 of the National Development Plan 1994-1999. This system will provide an access to third level educational qualifications for holders of the Applied Leaving Certificate.[64]

That is, the LCAP was now a *distinct* programme.

5.4 NCCA: Assessment and Certification in the Senior Cycle

The NCCA document *Assessment & Certification in the Senior Cycle*[65], published in 1993 as a discussion document on matters raised by the Green Paper, sees the new senior cycle as catering for 90% of 15-18 year old age group.[66] The emphasis on a vocational orientation is restated. "It is intended that all courses in all programmes will have a significant vocational orientation (particularly in LCVP and LCAP)", giving rise to a "need to review and reform the assessment and certification arrangements in senior cycle".[67]

Weaknesses in current examination practice are identified. "Examinations designed mainly for selection purposes tend to be less concerned with documenting what the candidates know or can do, and more concerned with the problem of discriminating reliably between candidates of different ability levels". Moreover, there was seen to be evidence of

> over-reliance on the measurement of verbal and logico-mathematical achievement which makes the examination not suitable for many students. The absence and/or inaccessibility of adequate statements of the criteria that are applied in assigning marks or grades. Such criteria are a key component in determining and maintaining quality in education.....(eg.. D3 - adequate, C1 - good performance)..much could be achieved through the use of exemplars and verbal descriptors of the properties that characterise these two levels of achievement... information (about) criteria...should be available to all teachers and, in an appropriate form, to other interested bodies....parents.[68]

Problems of equivalence between programmes are highlighted. "The lack of clarity with

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[64] Department of Education, *Circular M47/93: Revised Structure and Content of the Senior Cycle Curriculum September 1995 and subsequent years* (Dublin: Department of Education, November, 1993)., para 6(2).

[65] NCCA, *Assessment and Certification in the Senior Cycle - Issues and Directions - A Consultative Paper* (Dublin:NCCA,1993).

[66] Ibid., p. 7.

[67] Ibid., p. 15.

[68] Ibid., pp. 17-18.

regard to equivalence with other forms of national certification e.g. in the training area and, also, at international and especially EU levels. The introduction of the LCAP brings the issue of equivalence at national level into sharp focus".[69]

It is recommended that future policies should include "allocation of sufficient funds to ensure that...a sufficient range of modes and techniques of assessment will be available for the comprehensive assessment of student achievements". There is seen to be a need for "urgent...criterion referenced aspects of pupil assessments (to be) more explicit. Course committees could advise on the nature and preparation of such criteria...for key threshold...grades".[70]

The NCCA document discusses the issues particular to the LCAP:

> The Minister has announced (M.47/93) that "...it is intended that the LCAP will be fully integrated into the envisaged system for certification of educational and training qualifications as outlined in Chapter 8 of the National Development Plan 1994-1999. This system will provide an access to third level educational qualifications for holders of the Applied Leaving Certificate". It is essential that this action be taken and, also, that the procedural arrangements for the assessment and certification of modules and modular courses should also be addressed in this same context with a view to enabling students to acquire, where appropriate, certification of their achievements in such modules and short courses other than through the Leaving Certificate.[71]

There is seen to be a need in the LCAP for

> maximum flexibility in the use of a wide range of modes and techniques of assessment over a period of time is recognised. The Steering Committee which is already in place to oversee the development of the programme should advise Council on the details. As indicated at 8.2.11 (see previous note) the role and status of the Applied certificate in relation to access to further education and training should be confirmed. This should be done in advance of the introduction of the programme in September 1995.[72]

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[69] Ibid., p. 18.

[70] Ibid., pp. 21-22.

[71] Ibid.

[72] Ibid., p. 22.

5.5 NCCA: Leaving Certificate Applied Programme

The policy outline for LCAP having been formulated by the Department of Education, the task of constructing the programme had passed to the NCCA. This body produced *Leaving Certificate Applied Programme: Rationale, Philosophy and Operational Plan* in 1994.[73]

The NCCA explained that the LCAP would provide

> continuity and progression from Junior Cert....teaching and learning methodologies not normally associated with traditional Leaving Certificate practice...educational experiences of an active, practical and student-centred nature...content and activities with a significant out-of-school linkage...Course content will be set out in terms of knowledge, understanding, skills, competences and attitudes which are to be expected as outcomes.[74]

The student cohort for whom the course was intended was the

> 23% who take all their Leaving Certificate courses at Ordinary Level (and who) may not be following a programme responsive to their aptitudes, abilities and needs. The LCAP will identify and address the educational needs of these students, mainly low-achieving students, who use the Leaving Certificate for certification purposes as distinct from selection for higher education.[75]

The programme would be developed by a specialist

> Working Group....under the guidance of the Steering Committee...and active collaboration with the schools. The Working Group with the relevant course committees and the views of those committees on the proposed new courses will be presented to the Steering Committee. The Working Group will be responsible for the development of the structure, format and content of the programme. They will, through interaction with schools already involved in the Senior Certificate, VPT1 and other relevant schemes, design and develop each of the particular Applied courses...In certain areas, other individuals or agencies may be contracted to prepare specific aspects of the courses for incorporation into the overall programme.[76]

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[73] NCCA, *Leaving Certificate Applied Programme: Rationale, Philosophy and Operational Plan* (Dublin, NCCA, 1994).

[74] Ibid., p. 2.

[75] Ibid., p. 3.

[76] Ibid., p. 4.

Efficient delivery of the LCAP would require

> support from the Department of Education which will ensure that schools are provided with a comprehensive support programme, including inservice provision, necessitated by the different content and teaching methodologies...support services at local level.[77]

Assessment and certification of the LCAP were to be

> provided by the Department of Education...The range of modes and techniques used should not be constrained by those currently used within Leaving Certificate Ordinary and Higher courses.
>
> There will no equivalence as between performance in Applied courses and grades in Ordinary and Higher Level courses in so far as such equivalence would imply certain common curriculum content...A ladder of progression from Applied courses to PLC and other Further Education and Training courses, will be established. The LCAP should be highly valued in selection for entry to further study, to FÁS, to CERT and to other training courses, and to employment. Students, parents and others will be made aware of the status of the LCAP in terms of entry to Higher Education and, in particular, the ineligibility of such courses for matriculation purposes.[78]

LCAP courses would be developed as follows:

Curricular Area	Specific Courses
Arts	Art, Music, Drama & Dance
Civic, Social, Economic & Cultural Studies	Social and Cultural Studies (including aspects of history and geography)
Language	Gaeilge Chumarsaide Language and Communications
Mathematics	Mathematics
Science	Modules (e.g. Food and Agriculture, Horticulture; Electronics)
Technological Education	Technology, (including Computer Applications, Technological Literacy and Technology & Society)
Work Studies & Vocational Preparation	Work Studies & Vocational Preparation

[77] Ibid., p. 5.

[78] Ibid., pp. 6-7.

Religious Education, Physical Education and Guidance Counselling will also be provided.[79]

The implementation schedule was

September 1993	Steering Committee in place. Work to commence on Leaving Certificate Applied courses; Consultation to begin with appropriate bodies.
December 1993	Interim report to Council.
January - April 1994	Consultation on draft Leaving Certificate Applied courses.
May 1994	Applied courses presented to Council for approval.
June 1994	Applied courses presented to the Minister of Education by NCCA for approval and issue to schools.
August 1994	Staffing within the Working Group to be reviewed. Applied courses issued to schools to allow management and staff one year to plan for their implementation. Progression path for students to Further Education and Training to be established.
September 1994	Option of three year senior cycle in operation. Current Senior Certificate and VPT1 programmes continue to be available to schools.
Sept. '94 - Sept. '95	Development of teaching/learning resources where needed. Intensive training courses for teachers including principal teachers. Briefing of employers, media, parents etc. Local School/ Community/Industry Liaison Groups in place.

[79] Ibid., p. 8.

September 1995	Full Leaving Certificate Applied Programme in operation in schools.
June 1997	Final assessment and certification of student intake of September 1995.
September 1997 and onwards	Above pattern repeated.[80]

5.6 IACD Conference

The IACD (Irish Association for Curriculum Development) organised a conference on the theme of "*What is Happening in Senior Cycle with the LCVP and the LCAP* ?" on the 15th. of October 1994. The Chairman of the NCCA Steering Committee for the Leaving Certificate Applied Programme, and the Project Manager, Leaving Certificate Applied Programme, both gave presentations, the latter being very detailed. Key points are summarised as follows.[81]

Approximately 50% of the 17/18 year old age cohort did not aspire to continuing study. Some 23% of Leaving Certificate candidates took all of their subjects for examination at Ordinary level. There was concern for the fate of this group of students. The Leaving Certificate course neglected practical subjects, and was bookish, engendering a passive, spectator-like attitude amongst students.

The target group of students for the LCAP consisted of students at present obtaining less than 5 D grades at Ordinary level, students present in the system for lack of alternative occupation, students for whom the Leaving Certificate was too language-orientated, students for whom the LCVP would also be too language-orientated, and students with little competence at the Irish language.

The characteristics and principles of the LCAP were identified as follows. The primary objective was the preparation of participants for adult and working life. The programme must be recognisably different in character from the existing Leaving Certificate. This

[80] Ibid., pp. 9-11.

[81] Personal notes of 15/10/94

required: new or revised materials, new teaching approaches, and the possible alteration of beliefs. The programme was intended to cater for those not adequately served by other Leaving Certificate programmes. The programme was to be a distinct and self-contained course of two years' duration, incorporating key features of the Senior Certificate and VPT1 programmes. It must satisfy the EU Funding in Schools criteria.

The programme contained three main elements: Vocational Preparation, Vocational Education, and General Education. It placed a premium on the personal and social development of participants. It had a strong community base - the school was to be developed as as a learning location. Teacher development was to be addressed by in-career training focussed on issues of methodology, team co-ordination, and pupil-centred learning. A range of modes and techniques of assessing pupil progress was to be presented.

The NCCA had indicated the need for the active support of school managers, and the appointment of a school-based programme coordinator. Teaching methodologies would be required which promoted active participation by students; personal development of responsibility and initiative; varieties of learning style; common, generic skills across the curriculum; equity, skill in self-evaluation by teachers; and the identification of resources in the local community.

The curriculum framework was to consist of 25% of time spent on Vocational Preparation involving Vocational Preparation proper, Guidance, and Communications; 30% of time was to be spent on Vocational Education involving Mathematics, Vocational Options, and Information Technology; and 30% of time was to be spent on General Education involving Arts education, Civic and social education, Languages (including Gaeilge), and Leisure and recreation. A discretionary 15% of time might be spent on RE, Civics, and RSA or NCVA type courses.

The principles of course design were as follows. The short blocks or sessions were to be of one half-year in length. The student tasks were to be used as a means of course integration. Progression from Year One to Year Two was to be marked by increasing specialisation in Year Two. Flexibility in schools was to be encouraged; for example, adapting an existing CERT or VPT1 course to the LCAP.

The common curriculum of Year One would consist of full courses (160 hours) in each of Vocational Preparation and Guidance, Communications, Mathematics, and Civic and Social Education. Two Vocational Options were to be chosen from: Agriculture/ Horticulture, Hotel Management, Construction/Manufacturing, Craft, Engineering/Motor Trade, Office and Retail, Services, Technology in the Home. A course in Languages was to be taken. Short courses (80 hours) in each of Arts, Information Technology, Leisure and Recreation, and nine Student Tasks, were to be undertaken. Vocational Specialisms in Year Two were to be chosen from the Year One list and, in addition, Arts Education, Information Technology, or Leisure and Recreation. Students were to take four full or short courses in total, involving 1 module per session.

Assessment of students was to take place at the end of each session (half-year). Credit was to be given for the completion of a module. Student Tasks were to be assessed at the end of sessions 1, 2, and 3 via a variety of approaches. Students were to take external examinations in five areas at the end of session 4: Communications, Vocational Specialism, Mathematics, Languages, and Civic and Social Education. There should be a wide range of assessment tasks. Credit was to be given for a record of school experience over at least a period of one session.

5.7 The Steering Committee for the LCA

The Steering Committee was established with the following composition.[82]

Chairperson:	A prominent businessman
Vice-Chairperson:	Vice-Chairperson, NCCA, a member of a religious order, and the JMB.[83]

NCCA Council Members:

A representative of the ASTI[84]

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[82] NCCA, *Leaving Certificate Applied Programme: Rationale, Philosophy and Operational Plan*, Appendix.

[83] Joint Managerial Board.

[84] Association of Secondary Teachers of Ireland

A representative of the TUI[85]

A representative of the IBEC[86]

A representative of the ICTU[87]

A representative of the ACCS[88]

Others:

A Chief Executive Officer of a VEC

A Guidance Counsellor

The Programme Manager for the LCA

A representative of the Association of Senior Certificate Schools

A representative of the Association of Senior Certificate Schools

A representative of the Council of the NCVA[89]

The Chief Executive of the NCVA

An official of the NCEA[90]

A representative of the National Parents' Council: Post-Primary

An Assistant Chief Inspector, Department of Education

Consideration of the composition of the Steering Committee for the LCA reveals a feature of interest: the broad sweep of its membership, typical of a consensual body.[91]

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[85] Teachers' Union of Ireland

[86] Irish Business and Employers' Confederation

[87] Irish Congress of Trades Unions

[88] Association of Community and Comprehensive Schools

[89] National Council for Vocational Awards

[90] National Council for Educational Awards

[91] See Chapter Three, Section 3.10.

6 DISCUSSION

6.1 Introduction

This section begins with an overview and interpretation of the phase of development in Irish education initiated by the publication of the *Green Paper*. The emergence of the LCA and LCV programmes is then discussed. The LCA programme is contrasted with the continuation education initiative of 1930 and the contemporary Leaving Certificate Vocational (LCV) programme. Differences in the bodies established to develop the LCA programme and other Leaving Certificate programmes are examined, leading to the suggestion that the uncoupling of external assessment of the LCA from a structure involving the universities had a major impact on the manner in which this programme was developed; and, in particular, that the role of teachers with experience of programmes such as VPT and Senior Certificate increased in significance.

6.2 Overview

The *Green Paper* is in many ways a conjunctural document. Many of the trends and interpretative viewpoints put forward in this present work as expressive of the movement of industrialisation, secularisation, and nationalism find mention, in their distinct places, in the *Green Paper.*

The degree to which participation rates in the 16 - 18 year old cohort have been an element in national wage agreements such as PESP provides a further consensual note to social attitudes towards educational provision in Ireland. The tenor of discussion seems firmly oriented towards the aim of "equality of educational opportunity", with the notion of education for this age group broadened into "educational and training programmes", suited, as the *Green Paper* puts it, to the "identities and aptitudes" of all. "Identities" is a curious choice of word, indicating, perhaps, a gesture in the direction of the view of resistances to schooling by social groups as a cultural manifesto.

Lynch and Drudy, as discussed earlier, seem to settle for Gardner's concept of multiple intelligences as a way of resolving the extremely difficult problem of addressing resistances to schooling. In this view, what is taught in school has too narrow a bandwidth, as it were,

requiring more channels to be broadcast, and thus affirming these other intelligences by such official recognition. Bourdieu, too, considers the difficulties:

> ...one cannot, at the same time, denounce the inhuman social conditions of existence imposed upon proletarians and subproletarians, especially in the black ghettos of the United States and elsewhere, and credit the people placed in such situations with the full accomplishment of their human potentialities, and in particular with the gratuitous and disinterested dispositions that we tacitly or explicitly inscribe in notions such as those of "culture" or "aesthetics". The commendable concern to *rehabilitate*...is not in itself a guarantee of comprehension, and it may end up yielding the opposite result.[1]
>
> ...There is a manner, ultimately quite comfortable, of "respecting the people" which amounts to confining them to what they are, in *pushing them further down*, as we could say, by converting deprivation and hardship into an elective choice.[2]

These views explain Bourdieu's vehement opposition to the perspective of Giroux and those associated with the notion of the "liberating school":

> ...theories of resistance (e.g. Giroux 1983, Scott 1990) often forget that the dominated seldom escape the antinomy of domination. For example, to oppose the school system, in the manner of the British working-class "lads" analysed by Willis (1977), through horseplay, truancy, and delinquency, is to exclude oneself from the school, and, increasingly, to lock oneself into one's condition of dominated. On the contrary, to accept assimilation by adopting school culture amounts to being coopted by the institution. The dominated are very often condemned to such dilemmas, to choices between two solutions which, each from a certain standpoint, are equally bad ones (the same applies, in a sense, to women or to stigmatised minorities).[3]

In short,

> Resistance can be alienating and submission can be liberating. Such is the paradox of the dominated and there is no way out of it.[4]

This is not a pessimistic or defeatist perspective. The rigid determinisms Bourdieu highlights are for him observable facts that he has to report, no matter how much he may dislike them. For Bourdieu, however, the outcome is neither a passive acceptance of a

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[1] P. Bourdieu, *Practical Reason*, p. 136.

[2] Ibid., p. 137.

[3] P. Bourdieu and Loïc J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 82.

[4] P. Bourdieu and Loïc J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 24, citing P. Bourdieu, *Choses dites* (Paris: Editions de Minuit, 1987), p. 184, translated by Loïc J. D. Wacquant.

"natural order of things" nor an enthusiasm for "the people", but an *ethical or political programme of a certain character*:

> ...if everything leads us to think that certain fundamental dispositions towards the world, certain fundamental modes of constructing reality (aesthetic, scientific, etc.), of *worldmaking*, constitute universal anthropological possibilities, these potentialities are actualised only in definite conditions and that these conditions, starting with *skholè*, as distance from necessity and urgency, and especially academic *skholè* and the whole accumulated product of prior *skholè* that it carries, are unevenly distributed...across positions in social space....This simple observation leads us to an ethical or political program that is itself very simple: we can escape the alternative of populism and conservatism, two forms of essentialism which tend to consecrate the status quo, only by *working to universalise the conditions of access to universality*.[5]

The educational programme set out in the *Green Paper* for post-primary education in Ireland seeks to address another set of alternatives: how to address preparation for life and preparation for work. The proposals are set out as *abilities* that the student should acquire through schooling: an ability *to manage oneself* and to make the most use of personal resources, an ability to express one's own viewpoint *rationally*, and an ability to *relate effectively to other people*.[6] Within the terms of Bourdieu's analysis, this formulation might be taken to indicate what constitutes the *universal ends* of education for the authors of the *Green Paper*. Taken in this way, there is a striking resemblance to Gellner's characterisation of the state's intervention in education as producing *rational and communicative generic skills*.[7] The resulting *shared* culture displaces the older *cultural arbitrary*, as Bourdieu terms it, which acted as the "adornment, confirmation, and legitimation of a social order which was also sustained by harsher and coercive constraints".[8] In the *Green Paper*'s formulation, "critical thinking" is to displace "the acquisition of facts".[9]

The implementation of the programme of the *Green Paper* is described as a "broadening"

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[5] P. Bourdieu, *Practical Reason*, p. 137.

[6] Government of Ireland, *Education for a Changing World - Green Paper on Education* , p. 85.

[7] See the discussion at section 2.2.8

[8] E. Gellner, *Nations and Nationalism*, p. 38.

[9] Government of Ireland, *Education for a Changing World - Green Paper on Education* , p. 85.

of the curriculum, though a more accurate term might be *technicalisation*. The amplification of the meaning of this project requires that the authors of the *Green Paper* make a distinction between *implicit* and *specific* elements of the curriculum, the former referring to moral and spiritual values. It is as if the state's business is with the *specific*, while the *implicit* is left to those who handle *ethos*. The business of state power is revealed in the blank statement that the new subject called *Enterprise and Technology Studies* will be "obligatory...regardless of gender or ability level".[10] Students in the junior cycle are to be "exposed" to Art and Music so as to develop expressive abilities, indicating that the students are to be encouraged to *do* rather than to *learn facts* in these areas.

The orientation in the *Green Paper* towards *specific competences* is made very explicit in the edifying discussion of those students who followed "pass" subjects within a "broad general education" (old style) at Leaving Certificate, as opposed to those who followed "pass" subjects with vocational or technical content. The subsequent discussion exhibits all the symptoms of "*general-education-itis*": blurred vision, confusion, and disorientation. That is to say, the authors know where they want to get to, because in doing so several problems will be solved, they believe, but it does not seem to be clear to the authors *why* the measures proposed will solve the problems. This the *logic of practice*. The mechanism in this particular case is as follows: "broad general education" with little specific competence as content is to be turned into "a high quality of basic education" (with the authority of the OECD) with specific competences as content, but will be called general education with enhanced standards, or "an effective foundation of general education", or, more simply, broad general education. All that really stops this discussion from crossing over to consciousness (in Bourdieu's view of it) is the recognition that "lack of specific competence as content" in a school subject permits a student to "succeed" (in some sense) in the examination of the subject, by the *production of barely coherent signs, words, phrases, quotes, dates, and symbols*; a production which reflects a participation by the student that is experienced as *arbitrary and meaningless*.

A theme that emerges in the *Green Paper* and subsequent discussion documents and circulars is that of the *modularisation of knowledge*. Shore sees the *modularity schema* as

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[10] Ibid., p. 95.

one of the most pervasive and powerful of what he terms *foundational schemas*, that is, high level models of great generality and abstractness.[11]

> This modularity schema, through its power to structure a very large number of specific cultural models, virtually defines the cognitive landscape of modernity and has a lot to do with the emergence of a recognisably postmodern mentality. What I call the modularity schema is also understandable as a kind of high-tech cognitive style, a machine-driven logic that has powerfully affected the way in which much of our knowledge of the world has been coded.[12]

Shore's investigation of the *modularity schema* is extremely interesting and productive. Educational experiments in the organisation of university courses in the United States in the 1960s are found to have made extensive use of this method. Shore comments:

> Such structural innovations are based on the values of diversity, mobility, and novelty (usually called "creativity"). They are often neutral in regard to any of the debates about the content of education... Modular organisation can always evade such issues of content or value, because it places all alternatives on an equal footing. Since any such commitment is just one possible configuration, students have only themselves to blame for an unsatisfying education.[13]

The origins of the modularity concept are examined in some depth and it is concluded that they lie in the process of industrialisation in the last century.[14]

> ...the isolation of discrete and replaceable parts from the functioning whole was the advantage modularity bestowed on industrial production. This interchangeability of parts was taken a step further when such system's components could be further reduced to different combinations of homogeneous elementary units. The functionally distinct units could be conceived as distinct organisations of a few basic design elements. Thus, the logic of modularisation encourages a homogenisation of component units, a kind of "minimalism" in design.[15]

These views may be seen as an interesting expression of Gellner's view that culture is now the

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[11] Brad Shore, *Culture in Mind* (Oxford: Oxford University Press, 1996), p. 117.

[12] Ibid.

[13] Ibid., pp. 129 - 130.

[14] Ibid., pp. 130 - 132.

[15] Ibid., p. 151.

> necessary shared medium, the life-blood or perhaps rather the minimal shared atmosphere, within which alone the members of the society can breathe and survive and produce. For a given society, it must be one in which they can *all* breathe and speak and produce; so it must be the *same* culture.[16]

Shore's view perhaps gives an interesting insight into the fate of the NCCA's suggestion that, following the establishment of two national currents in senior cycle education, the Leaving Certificate and the Senior Certificate, students could pick a mixture of subjects and modules from the two currents. Such an option might have reproduced the effect the state wished to avoid, that is, students obtaining unsatisfying outcomes through their choice of subjects. While the circumstances surrounding the decision to "ring-fence" the cohort of students who would take the Senior Certificate (ultimately reorganised and known as the LCA) is discussed below, the dangers of the "pick and mix" approach may be noted; though, as with the previous arrangements, *the import of choices made by students is disguised until the point when students receive national certification and have left school.* As with the American experience, "students have only themselves to blame for an unsatisfying education".[17] However, in this context, it should be noted that the provision of a programme for students for whom the Leaving Certificate, at any level, in any subject, was unsuitable, *is a distinct issue* from that of encouraging students to change the *subject content and orientation* of their choices of subjects at Leaving Certificate Ordinary level. The view expressed in the present work, however, predicts that such change will force a fraction of these students to switch to the alternative programme because of the demands of the *technical* content of the LCV groupings of subjects. This assumes that the LCV groupings will not be altered to offer a softer route.[18]

The NCCA discussion of examinations highlights the certification effect, described in frank terms as an opposition between "discriminating reliably between candidates" (selection) and "documenting what candidates know or can do".[19] It will be recalled that Bourdieu and Passeron give this opposition as conserving power and privileges *and*

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[16] E. Gellner, *Nations and Nationalism*, p. 38.

[17] Ibid., pp. 129 - 130.

[18] See the discussion below.

[19] NCCA, *Assessment and Certification in the Senior Cycle - Issues and Directions - A Consultative Paper*, pp. 17 -18.

producing and attesting capacities, confusion between the two permitting academic requirements and certificates to be passed off as technical prerequisites for the exercise of an occupation. [20]

The NCCA discussion of examinations appears to be an implementation of the distinction set out in the *Green Paper* between *specific* and *implicit* elements in the curriculum. Specific content should be matched by specific examination. What is not said is that *only specific content could be matched by specific examination*. Once this is clear, it becomes possible to explain the tendency for "over-reliance on the measurement of verbal and logico-mathematical achievement".[21] The further proposals for "adequate statements of the criteria that are applied in assigning marks or grades" will require, as is said, "the use of exemplars and verbal descriptors of the properties that characterise...levels of achievement", which should be explicit, public documents.[22] The sense of urgency transmitted by the NCCA prose is carried over to the discussion of the certification of the proposed LCA programme:

> It is essential that...the procedural arrangements for the assessment and certification of modules and modular courses should also be addressed...with a view to enabling students to acquire, where appropriate, certification of their achievements in such modules and short courses *other than through* the Leaving Certificate.[23]

This refers to the establishment of a national system of educational and training qualifications.[24] This emphasis on alternative forms of certification highlights one advantage of a dual-track system: as an entirely separate system, it has its own system of examination and certification, which finds its level of value in the market of credentials. However it is important to recall that the dual-track proposal was rejected in favour of making provision for those students capable of following the LCV programme.

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[20] Pierre Bourdieu and Jean-Claude Passeron, *Reproduction in Education, Society and Culture*, pp. 164 -165.

[21] NCCA, *Assessment and Certification in the Senior Cycle - Issues and Directions - A Consultative Paper*, pp. 17 -18.

[22] Ibid.

[23] Ibid., pp. 21 - 22.

[24] The history of the government's attempts to set up an agency responsible for such a system falls outside the scope of this work. Differences between government departments and agencies seem to be at the heart of the matter.

The desire for the explicit is carried over to the NCCA's operational plan for the development of the LCA programme.[25]

> Course content will be set out in terms of knowledge, understanding, skills, competences and attitudes which are to be expected as outcomes.[26]

The ambiguous position of the LCA as a Leaving Certificate programme is highlighted by the remark that

> There will no equivalence as between performance in Applied courses and grades in Ordinary and Higher Level courses in so far as such equivalence would imply certain common curriculum content...
>
> Students, parents and others will be made aware of the status of the LCAP in terms of entry to Higher Education and, in particular, the ineligibility of such courses for matriculation purposes.[27]

This tension finds further expression in the request to the Department of Education that "the range of modes and techniques used should not be constrained by those currently used within Leaving Certificate Ordinary and Higher courses", and the repeated statement that the teaching and learning methodologies would not be those "normally associated" with the Leaving Certificate.[28] A "comprehensive support programme", which was to include " inservice provision, necessitated by the different content and teaching methodologies", and other support services at local level, [29] were required for the "efficient delivery" of the LCA programme. These distinctions are further emphasised by the NCCA's clear perception that the development of course materials would require the expertise of schools already involved in alternative programmes, while the views of the relevant NCCA course committees would be canvassed. Though the NCCA implementation plan of 1994 comes after *Circular*

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[25] NCCA, *Leaving Certificate Applied Programme: Rationale, Philosophy and Operational Plan*, pp. 2 - 3.

[26] Ibid., p. 2.

[27] Ibid., pp. 6-7.

[28] Ibid.

[29] Ibid., p. 5.

M47/93 of November, 1993, and its decision to "ring fence" the LCA programme,[30] the plan's proposal to consult the "relevant NCCA course committees" proved to be a further casualty of the distinctiveness of the LCA.[31]

The details given of the IACD conference reveal a more informal aspect of curricular innovation than official reports and circulars. In the analysis offered of the traditional Leaving Certificate as "bookish, engendering a passive, spectator-like attitude amongst students", can be caught an echo of the 1945 Conference of Convent Secondary Schools (CCSS) and its view that the secondary curriculum was "designed for boys in preparation for university work, was over-intellectual and bookish".[32] Corresponding to a remark made at the IACD conference that the LCA involved teaching "what is identifiable as *real*...from publicly recognised fields of knowledge",[33] might correspond the CCSS's desire that schools should serve "the needs and best interests of their pupils by training them for the 'real work of life' as woman, wife and mother.[34] To the IACD conference's remark that each LCA student should acquire a school-based profile or Record of Achievement,[35] might correspond the CCSS's suggestion that an essential element of any alternative programme should be "a certificate of personal reliability and efficiency awarded by the school authorities, based on records kept by the school.[36]

An interesting note was struck at the IACD conference by the repeated insistence that the obstacles which prevented the cohort of students for whom the LCA was designed participating in the LCV or the traditional Leaving Certificate arose from the latter courses being too *language orientated*.[37] This issue is addressed in the conclusion of the present work.

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[30]Department of Education, *Circular M47/93: Revised Structure and Content of the Senior Cycle Curriculum September 1995 and subsequent years*, para 6(2).

[31] The committees were not consulted. This is discussed below.

[32] *Annual Report* , CCSS 1945, 36, cited in O Buachalla, *Education Policy*, pp. 151.

[33] Personal notes of 15/10/94.

[34] *Annual Report* , CCSS 1945, 36, cited in O Buachalla, *Education Policy*, pp. 151.

[35] Personal notes of 15/10/94.

[36] Ibid.

[37] Personal notes of 15/10/94.

The discussion of consensual bodies and, in particular, the *National Education Convention* (NEC) permits a characterisation of the NEC as the consensual expression of the policy initiated by the *Green Paper*. This seems unlikely, at first glance, because so much of the NEC was taken up with complaints that qualities such as "enterprise, innovation, self-reliance and problem-solving" were "too narrowly associated with a technological and commercial idiom".[38] While the "promotion of vocational and practical subjects and of work experience were regarded by the Convention as important features of the education system, a too narrow approach to them could distort the educational process".[39] Yet these complaints took place against a backdrop in which the new minister for education had abandoned the newly obligatory subject *Enterprise and Technology Studies*: an innovation described in the present work as the exercise of state power in intervening in the *specific* areas of the curriculum (competence), while the *implicit* elements, the *ethos* issues, being left, by agreement, to the owners of the schools. Had the state been too naked in its coercion? Were the delegates complaining about an action that had been abandoned? These matters are unclear. What is clear, however, is that the NEC *Secretariat* goes further than the *Green Paper*, with its division of the curriculum into competence and *ethos*, by its active challenge to the *implicit* nature of the principle upon which the *ethos* of the school is translated into the practice of management of the school, suggesting instead "a detailed analysis and exposition of the concept of ethos, and what it entails".[40] This tone is the tone of *skholè*: elevated, rational, objective.

The emergence of the university as a stronger presence in the matters the present work examines is worthy of attention. The fact that university academics have displaced clerics as the objectifiers of the educational consensus has been charted. Bourdieu's analysis of the objectifying view suggests it is a perspective of power or an instrument in the contest for power. The academic tone which corresponds to this "clear and fixed point of view...even when representations of other outlooks are at issue", is a lever, an instrument of power.[41] Denis Donoghue refers to the use of such discourse (in the field of English literature) as "gunboat linguistics":

[38] *Report on The National Education Convention*, p. 8.

[39] Ibid.

[40] Ibid., p. 27.

[41] Clifford Geertz, *Works and Lives - The Anthropologist as Author*, p. 60.

> The reader doesn't need to have the point explained, a nod will do, and he's expected to be gratified by the evidence that he's deemed worthy of this attention. The sentence has the inflection of a glance. It helps, if the writer is an Oxford don; better still if he gives the impression of being such a person by birth, class, nature, and nurture, as well as by notable academic achievement and the publication of such a work as the one the reader is now holding. Then you can appeal to shared values, good taste, fine discernment, which make communication a privilege congenially offered and accepted.[42]

The invitation to the reader to be rational is disguised by the flattery implied in being taken as reasonable; pitting, as it were, one passion (of the audience) against another in the interests of rationality.[43] Donoghue's response is characterised by Geertz as a "cheerfully admitted Irishman's dislike of this mode of discourse", presumably on the basis that the reasonableness of the linguistic tone is intended to mask the fact that authoritative judgments concerning, in this case, the "fenced-off gardens of English poetry", have already been made and are open only to reception, not to question.[44] As has been discussed earlier, Geertz does "not share this dislike" of such a mode of discourse, though he identifies it as part of a "'theatre of language' of enormous power".[45] Being Professor of Social Science at the Institute for Advanced Studies, Princeton, and being, quite clearly, a Barthesian 'author', presumably gives Geertz a specific relationship to such power, a relationship perhaps different to that of Donoghue writing in 1981, when he sought to contest it by classifying it.

Donoghue, writing in 1968, appears to take a different role in this theatre of language:

> It was entirely appropriate, of course, that arrangements for the revision of the Leaving Certificate courses and examinations should be undertaken. Mr O'Connor's criticism of the Intermediate and Leaving Certificate examinations is severe, but sound; indeed, a more searching analysis would be useful...I would be entirely happy with his strictures...if I were persuaded that the new arrangements which he praises will be substantially better; but the evidence suggests that in fact the new syllabuses and examinations will be worse than the old. By 'worse' I mean: enforcing lower standards, a general depression of achievement, a specific programme which caters for the lazy and the dull at the expense of the intelligent

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[42] D. Donoghue, *Ferocious Alphabets* (Boston, 1981), p. 12, cited in Geertz, p. 58.

[43] "Leibnitz argued that one cannot fight passion with reason, as Descartes claimed, but only with "slanted wills" (*volontés oblique*), i.e. with the help of other passions", P. Bourdieu and L. Wacquant, "The Chicago Workshop", *An Invitation to Reflexive Sociology* (Cambridge: Polity Press, 1992), p. 137.

[44] Geertz, p. 58.

[45] Ibid., p. 59.

student...[46]

Mr. O'Connor was not, despite the tone, a French student whose essay is being marked for the *agrégation*[47] , but was at this time, as discussed earlier, the Assistant Secretary of the Irish Department of Education.[48] Donoghue continues:

> On the question of university entrance, Mr O'Connor's views are interesting. I assume that he does not propose to tell the universities what their entrance requirements should be. Perhaps I am mistaken in this assumption. Certainly he is brash in these matters. 'I am asking,' he says at one point, 'that all subjects of the Leaving Certificate have equal value for purposes of Matriculation'. I would be happy to read this as Mr O'Connor's little joke, a sally of wit to enliven a rather dull occasion. But he goes on to say that sewing, for instance, is the kind of thing he has in view. 'Sewing is part of the Domestic Science course for the Leaving Certificate,' he reminds us. Now sewing is an excellent skill. I yield to no civil servant in my respect for the girl or boy who can sew. Indeed, I think of sewing as commensurate with other skills which I value equally: mending punctures, snagging turnips, baking soda-bread, knitting socks. 'I could go on', as Mr O'Connor says. So the universities are to accept such skills as having equal educational value with English, Irish, Latin, History, Mathematics, and so forth. We are to treat them as having equal significance as Matriculation subjects...
>
> I am weary of this farce. It is painfully clear that Mr O'Connor does not understand the aims and purposes of education: his coy reference to education as 'organized chaos' is blarney. There is no evidence in the essay that he understands the significance of educational standards. *Everything he has written depends upon certain social and political considerations which are clear enough*, although they are not specified. Educational issues are never consulted. Quantity and numbers are the only criteria; quality is a trivial matter. Let university professors worry about that....
>
> It may be said that my attitude is unduly subjective. I do not deny that my experience of the Department, especially during the past year or two, has been tedious. It is not pleasant to see so much power entrusted to mediocre men....
>
> So we revert to Mr O'Connor's essay. It is a significant document, mainly because

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[46] D. Donoghue, "Comments on the Foregoing Article - University Professor", *Studies* (Autumn 1968), 284.

[47] "*agrégation* - a *concours* (q.v.) in each subject, for a small number of teaching posts in secondary education as *agrégé de l'Université* (in fact a sine qua non for a post in higher education). *concours* - an annual, national, competitive examination, e.g. for the *agrégation...*", P. Bourdieu and J-C Passeron, Glossary of Institutions and Titles, *Reproduction in Education, Society and Culture* (London: Sage,1996), p. 235.

[48] "We have devoted almost all the rest of this issue to a long article, 'Post-Primary Education: Now and in the Future', and comments on it from a number of points of view. We are grateful to the Minister of Education, who gave permission for the publication of the article. It will be understood, of course, that he is not responsible for the views expressed in it. We are grateful also to the author, who is head of the Development Section of the Department of Education, for his very full treatment of a complex subject...Mr O'Connor has now traced, as fully as he could within 7 - 8,000 words, the working out of a coherent policy in the drawing up of which he played an important part: moreover...he has also revealed at least some of the ideas behind that policy.", Editorial, *Studies* (Autumn 1968), 226.

of its consistency. To be specific: not a single word in the essay speaks of quality. It seems pointless to continue.[49]

The point of the foregoing is not to portray Donoghue as a hypocrite, for the perspective of this work is that to be human is to feel and react to the effects of hierarchy: in some areas of life to be dominant, in others to be dominated. In this case, it would appear that in an area where the state and the university are in contest for legitimate authority, the Department of Education's decision to abandon the negotiation of change through the syllabus committees and to simply exercise its power, *the way it does*, "for certain social and political considerations", is responded to by Donoghue through a discourse whose tone combines the rhetorical stance of savage indignation with the symbolic aggression of the categories of professorial judgment, "mistaking" the Civil Servant's "essay" for that of a wretched student, in the same manner as he "mistakes" O'Connor's remark about sewing.[50] The students have become rowdy, the lecture with lantern slides has been abandoned, the Dean informed. Though this discourse is an expression of academic power intended to rally resistance to the Department of Education's measures, it is uttered from a position of defeat.

The point of the foregoing, rather, is to demonstrate that within the terms of academic dispute, within the academic field, the claim by one academic tradition, because it is what it is, to an authoritative, powerful, "clear and fixed point of view" may be contested, but that when the dispute is between two fields, the academic and another (in this case, the state), and concerns education, the claim by the academic tradition, because it is what it is, to an authoritative, powerful, "clear and fixed point of view" may be asserted.

The rather dated, one hopes, perspectives of *skholè* represented by Donoghue's remarks of 1968 are interesting in the revealing attitudes displayed towards the practical:

[49] Ibid., p. 285 - 8. Emphasis added. "The manifest brutality of some epithets - which would not be permissible in ordinary usage: where 'servile', for example would be replaced by 'humble'...or 'modest' - should not deceive us: the academic excuse which maintains that the judgment is applied to a piece of work and not its author, the fact that these are adolescents who may still improve, and who may be treated more roughly and frankly..., none of these suffices to explain the complacency and freedom in symbolic aggression observable in all examination situations", P. Bourdieu, Postscript - The Categories of Professorial Judgment, *Homo Academicus* (Cambridge: Polity Press,1996), p. 205.

[50] "The famous Texan surgeon, Dr de Bakey, said in an interview recently that his great skill was due in considerable part to the fact that from an early age his mother taught him to sew very neatly. Sewing is part of the Domestic Science course for the Leaving Certificate. Again, would anybody deny that a good course in Art would be useful to a future architect, for example?", S. O'Connor, "Post-Primary Education: Now and in the Future", *Studies* (Autumn 1968), 233.

> I yield to no civil servant in my respect for the girl or boy who can sew. Indeed, I think of sewing as commensurate with other skills which I value equally: mending punctures, snagging turnips, baking soda-bread, knitting socks.

This interesting litany of the practical spans the rural and the domestic, and moves from the masculine to the feminine poles of the dominated. While recognising that Donoghue is furious, because his views have been dismissed, or perhaps because of that, the tone is one of frank contempt. To be fair, Donoghue's hyperbole may be directed against the rather shabby and intellectually disappointing period of Irish history that was ending, with its celebration of the rural and the traditional, but a close reading of O'Connor's essay reveals it to represent a modernising voice, rather than a traditional one.

The nature of the *real* may be contested as being rational or being relational, but it may certainly be claimed to be domestic, as evidenced by the views of the Conference of Convent Secondary Schools, Lynch, and Bourdieu. The fears that the values of traditional society and domesticity would be destroyed by rationality and industrialisation may be portrayed by some as reactionary, but it is possibly the case that the same movement motivates resistance to the influence of entrepreneurial ideologies upon the curriculum. Lynch argues for the value of "love labour" to be recognised in the curriculum; the NEC recommends, somewhat vaguely that "all subjects should be approached in a truly educational way"; while Bourdieu argues that

> With the constitution of the economy and the geralization of monetary exchanges and the spirit of calculation, the domestic economy ceases to furnish the model of all other economic relations. Threatened in its specific logic by the market economy, it increasingly tends to affirm explicitly its specific logic, that of love.[51]

Bourdieu continues:

> In the case of Algeria, I was able to show that the generalisation of monetary exchanges and the correlative constitution of the "economic" idea of work as paid labour - in opposition to work as an occupation or a function which is an end in itself - leads to the generalisation of calculating dispositions, threatening the indivisibility of goods and tasks on which the family unit rests. In fact, in differentiated societies, the spirit of calculation and the logic of markets undermine the spirit of solidarity and tend to substitute the individual decisions of the isolated individual for the collective decisions of the household or the head of the household and to favor the development of markets separated according to different categories of age or gender

[51] P. Bourdieu, *Practical Reason*, op. cit., p. 106.

(teenagers) which make up households.[52]

6.3 The End of Childhood and the Transition to Work

A persistent feature of the provision of an education which seeks to train students in the application of knowledge to specific industries or occupations has been the gap between the end of the period of compulsory education and the beginning of the period of such specifically vocational education. In the 1920s, this gap could be said to be of a minimum of two years duration, stretching from the age of 14 years (the school leaving age since 1927) to the age of 16 years (the age permitting access, where it existed, to the night class of the technical school). Continuation schools were to fill this gap, and, in Mulcahy's view, admirably did so in curricular terms. What is the significance of this gap? What determines its starting point and its finishing point? On the one hand there are the assumptions and policies surrounding the issue of what constitutes the period of compulsory education, what is "realistic", or "appropriate", or "utopian". On the other hand there are the assumptions about what is needed by way of training for specific occupations, about the age at which young people do, in fact, start work, about what *should* be the age at which young people start work - that is, assumptions surrounding the notion of childhood and the transition to adulthood and working life. Then there are those who stop school as soon as they can, who do not even number among the candidates for examinations, who do not appear as failures because they do not even gain this statistical distinction.

The notions of childhood and adolescence may not have the same meaning now as they did in the 1930s. What seemed utopian in the 1930s in the field of the provision of free, compulsory education to the age of 15 years, happened in the late 1960s. Arrangements concerning the transition to work are now subject to a system of classification established by the EU and backed up by budgetary measures.

A further complication in making a comparison between different periods arises from the realisation that the age up to which education is compulsory appears to have been less than the age up to which varieties of education have been available without fees. At any given time, both ages are the product of policy, but policies with different import. As discussed earlier, continuation education was intended to address a threefold *misalignment*: between

[52] Ibid., pp. 106 - 107.

the period for which forms of education were free; the character of that education, where it existed; and the perceived needs of economic activity. The policy of providing continuation education addressed at least two issues: providing free schools to which students could go, where none existed previously; and providing an education whose character was intended to be more attuned towards economic activity than that provided in the National School, which appears to have been the only other free school. The remarks of the minister (O Sullivan) in this last regard take on more sense to the modern reader when Coolahan's data is digested: in 1944, 20,800 students aged 14 to 16 years were enrolled in the National School, of these, 4,000 were in 'secondary tops'.[53] The number of such students in the national schools represents roughly one quarter of the entire age group 14 - 16 years.

The period since the sixties has been marked by a desire on the part of policy makers to delay the entry of young people to the labour market. The period of compulsory education lasts to the age of 15 years, though this may be read as effectively running to the end of the junior cycle of post-primary education. In what sense can it be said that there is now a gap between the age which marks the end of compulsory education and the age which marks (in some typical way) a realistic chance of employment or access to specifically vocational training? Is it the intention of policy makers that the LCA should be a programme to fill this gap in a way somewhat analogous to the role of continuation education in a previous period? If the LCV is intended to be the main vocational education current in post-primary education, understood as an orientation to the technical, but academic, subjects of the traditional Leaving Certificate, is the LCA an initiative in vocational education at all? If not, what is it? Some help with this question may arise from pursuing analogies between the LCA and the initial provision of continuation education, and, as such, is a further attempt to historicise the issues under consideration in this work.

Provision for continuation education was made in separate schools, newly built, funded from central and local public funds, with ends entirely distinct from those of secondary education and its system of certification. The main initial purpose of the measure was to bridge the gap between the end of free school provision by the state and the provision of technical education with a quite sharp vocational focus, though many students did not proceed to take up the latter option. By 1930, the purpose of such education was defined to

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[53] Coolahan *Irish Education*, p. 44. See the discussion on O'Sullivan's remarks at p. 221 in this work.

be to "...*continue and supplement* education provided in elementary schools and to include *general and practical training in preparation for employment* in trades etc. and also *general and practical training for improvement* of young persons in the early stages of employment".

Students who attended continuation education do not appear, in general, to have had the option of attending secondary school, but may have had the option of remaining at the National School, or following a secondary curriculum in National Schools permitted to offer a 'secondary top'.[54] Moreover, in 1944, for example, for each 14-16 year old student in continuation education, there were approximately nine young people of the same age group who were no longer attending school, three were attending secondary school, and four were still attending primary school. Though barred from the secondary schools by essentially financial barriers, the students in continuation school may have been relatively privileged, though the sense of privilege is heavily dependent upon the nature and perceived value, *the visibility*, of the activities undertaken by those young people who were no longer attending school, or those still attending the National School. If we consider the group of children aged 14-16 for whom the secondary school was ruled out, the probability of going to continuation school was 1 in 14 (0.07). What is not clear are the circumstances which determined whether a student remained at National School or transferred to continuation education, where this choice existed, and the social significance attached to these outcomes. The importance of the distance children had to travel to school and the cost and possibility of such travel, should not be understated in this context.[55] Children who lived in towns had an immediate advantage in terms of physical access to school. This raises the further issue of the role of geographic location in determining which forms of education were realistically available to students.

The LCA programme, by contrast, is intended to address the group of students characterised as being, *inter alia*, "present in the system for lack of alternative occupation",

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[54] Coolahan *Irish Education*, p. 44.

[55] The Department of Education proposal of 1947, concerning a form of comprehensive school, used a geographical criterion (living within a five mile radius of the school) for entitlement to access to the school, because there was commitment to the provision of free travel to and from the school. This criterion is an eminently *rational* one. As, however, the comprehensive curriculum would address general education, the project required ecclesiastical sanction, implying an ecclesiastical criterion for entitlement to access to the school.

this within a context where "approximately 50% of the seventeen/eighteen year old age cohort did not aspire to continuing study".[56] In 1992, for every three seventeen-year-old students in school, one seventeen-year-old was no longer at school. The target for 1999 is that for every nine seventeen-year-old students in school, one seventeen-year-old will no longer be at school; of these nine students at least two or three will be likely to be following the LCA.[57] The apparent persistence of the ratio of roughly 33:100 between the number of students in continuing education and the number in academic education, and the number intended to follow the LCA and the number following other Leaving Certificate programme should be noted. If we consider the pool of students who will either follow the LCA or leave school, the probability of following the LCA is likely to be 2 in 3 (0.67) or 3 in 4 (0.75). The issue of relative privilege would not appear to be likely to arise, indicating that the status of the LCA course will depend more on official marks of recognition and acceptance, particularly by employers, than continuation education ever did.

The LCA programme is to be "recognisably different in character" from the Leaving Certificate, and a "distinct and self-contained course of two years duration", with the primary objective being "the preparation of participants for adult and working life". As with continuation education, the LCA will be *distinct*, taught in class groupings apart from other programmes, but provided in the same school as other programmes, a phenomenon known in departmental circles as "ring-fencing". This echoes the proposals of the Conference of Convent Secondary Schools to deal with similar issues in 1945, which included building "vocational blocks" (i.e. separate buildings) as additions to secondary school premises.[58] Schools will receive a capitation fee for these students, plus additional resources in the form of equipment grants, and an extra allocation of teaching/coordinating staff. In a period when school enrolments, as an absolute number, are likely to decline for demographic reasons, the LCA student may be a valuable addition to the school population in small to medium sized secondary schools.

As discussed earlier, continuation education was intended to fill a gap, a gap interpreted here as a *misalignment* between the period for which forms of education were free, the

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[56] See the discussion above..

[57] Based on the claim that 23% of existing Leaving Certificate students are obtaining poor results from this programme.

[58] *Annual Report* , CCSS 1945, 56, cited in O Buachalla, *Education Policy*, p. 153.

character of that education, where it existed, and the perceived needs of economic activity. If the LCA is a programme intended to fill a modern version of that gap, what are the features of the modern misalignment (if any) between education and the economy which the LCA must address?

The overview of policy given above would indicate that, at a general level, the LCA represented part of a policy initiative to increase participation rates in the senior cycle of post-primary education from 75% to 90%. The cohort of students for whom the LCA was intended was not likely to be suited to the traditional Leaving Certificate programme, though perhaps a few students, rather than leave school, would choose to follow the traditional programme, typically receiving poor grades at Ordinary level. It may be the case that the LCA represents an initiative that addresses more the older objective of *access to education* - by the provision of a programme in which the students can fully participate, and the implementation of active measures to *retain* the students in the programme for its duration - than the newer objective of *attainment in education*, as gauged by detailed analysis of the curriculum and an emphasis on actual competencies and outcomes.

Attention is now turned to comparing the LCA programme with the LCV programme with a view to identifying the relation between education and the economy, and the objectives of these two programmes.

6.4 LCV and LCA

The review of contemporary policy reveals that vocational education, in the sense of the direct preparation of a person for a particular occupation, will not be a part of the traditional Leaving Certificate, the LCV, or the LCA. This appears to be an outcome influenced by the debate around the Culliton and Moriarty proposals. In the main, the intention appears to be that such narrowly defined or specific vocational education will take place after the completion of a Leaving Certificate at age 17 or 18 years. Let us refer to such education as *specifically vocational education.*

General education is intended to take place, as a universal experience, up to the completion of the junior cycle of post-primary education, that is, to the award of the Junior

Certificate, and, in general terms, the end of the period of compulsory education. Thereafter, with or without the Transition Year as a period of orientation, the student may proceed with a programme of "broad general education" (new style) by choosing such academic but technically oriented subjects as qualify the student to participate in the LCV, or by opting to follow the LCA programme. If the former, the route to any subsequent *specifically vocational education* would appear, in general terms, to be that of study at a third-level college. If the latter, the route to any subsequent *specifically vocational education* would be via PLC courses or release from employment- there is no direct route to third level education for the LCA student. These programmes of "broad general education" seem to correspond to Level 1 of the schedule of vocational preparation adopted by the European Union (discussed earlier), with the possibility of the LCVP leading to a Level 3 qualification in a third-level college, or a Level 2 qualification through apprenticeship; the LCA leading to a Level 2 qualification via a PLC or otherwise, and the possibility of a subsequent Level 3 qualification from a third-level college.

An analysis such as this is in harmony with the view that assessment should permit progress to higher levels of training. It seems clear that assessment does not dictate *which level* of subsequent training is immediately open to the student, for that appears to be decided by *the earlier choice of programme* - LCV or LCA.

This analysis may also help to explain some of the differences between the LCV and LCA programmes. In the case of the LCV, the student will typically study English, Irish, mathematics, a foreign language, and those technical subjects set out in the LCV schedule, though neither English nor mathematics are specific requirements of the programme. One view might be that this subject matter is required as a preparation for the Level 3 acquisition of *theoretical knowledge*. There does not appear to be any intention that these school subjects will be taught in a manner that addresses the specific needs and interests of the LCV student. In the teaching of these subjects in class, the LCV student does not appear to be distinguishable from the "regular" Leaving Certificate student. These subjects would thus appear to constitute elements of a general education that exceed the requirements of Level 1

preparation in this regard.[59] The specific needs and interests of the LCV students are to be addressed by the LCV link modules and periods of work experience. The subject mix and the Link Modules thus constitute a superior Level 1 vocational preparation with an orientation towards the possibility of future Level 3 preparation or a continuation to Level 2 preparation.

In the case of the LCA, as a possible preparation for further education at Level 2, there does not appear to be any specific need for particular subjects to be studied. In this sense, the LCA may not be a period of preparation for Level 2 education, *but a period of waiting for Level 2 education* or starting work. This might be described as a period of time provided for "the improvement of young persons" - a task assigned in 1930 to continuation education. If this is the case, then the objectives of the LCA are those of Level 1 preparation: knowledge and skills attained at the end of compulsory education with perhaps some initiation to work. However, the period of compulsory education broadly coincides with the completion of the junior cycle of education, which may not have been a particularly happy or productive period for the "typical" LCA student. The "knowledge and skills" obtained from this period may not be of great extent. Thus it is here that the role of "work orientation" may come into play by providing "more relevant and motivating programmes of study" so that the student may acquire the knowledge and skills *expected at the end of the junior cycle*, but now acquired in a context with an orientation towards work, and *adulthood.* To this should be added the outcome of research showing that school is a more valued site for early school leaver programmes than out of school venues. Bourdieu would probably argue that the extra time in school is to permit a more thorough socialisation into the principle of hierarchy and the appropriate future roles for these students.

This view of the LCA as a Level 1 vocational preparation may explain both the freedom with which the LCA could be designed as being entirely distinct in its content from any other programme in the senior cycle, and the *necessity* that it should be so, given that it may be a reworking of the aims of *junior cycle* general education recast in adult contexts.

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[59] The NESC Report notes that "..The countries with apparently superior vocational training have *broad* vocational training with significant general educational requirements - the general and vocational are inter-related (the authors of one study observed vocational classes in practise in France and remarked on the high quality of humanities classes - students completing essays on, and discussing the novels of Hugo and poetry of Baudelaire!)", National Economic and Social Council, *Education and Training Policies for Economic and Social Development,* p. 33. Substitute Austen and Kinsella and one has the Irish version.

A comparison between the composition of the Steering Committees set up to establish the LCA and LCVP programmes is instructive.[60]

LCA	LCV
Chair: A prominent businessman	Chair: Member of NCCA Council
Vice-Chair:	Vice-Chair:
Vice-Chairperson of NCCA Council, a member of a religious order, and JMB[61] .	None
NCCA Council Members: One representative of the ASTI[62]	NCCA Council Members: Two representatives of the ASTI
One representative of the TUI[63]	Two representatives of the TUI
One representative of the IBEC[64] One representative of the ICTU[65] One representative of the ACS[66]	One representative of the ACS
	One representative of the National Parents' Council
	One representative of the Department of Education
	One representative of the IVEA
	One representative of the JMB
Others:	Others:
A Chief Executive Officer of a VEC (IVEA)	
A Guidance Counsellor	

[60] The composition of the LCA committee is taken from NCCA, *Leaving Certificate Applied Programme: Rationale, Philosophy and Operational Plan*, Appendix; that of the LCVP committee is taken from a communication from the NCCA.

[61] Joint Managerial Board.

[62] Association of Secondary Teachers of Ireland

[63] Teachers' Union of Ireland

[64] Irish Business and Employers' Confederation

[65] Irish Congress of Trades Unions

[66] Association of Community and Comprehensive Schools

The Programme Manager for the LCA	The Programme Manager for the LCVP
Two representatives of the Association of Senior Certificate Schools	
A representative of the NCVA[67] The Chief Executive of the NCVA	A representative of the NCVA
An official of the NCEA[68]	An official of the NCEA
A representative of the National Parents' Council: Post-Primary	
An Assistant Chief Inspector, Department of Education	
	Two representatives of the universities (CHIU[69])

Figure 6.1 LCA and LCV Steering Committees (Comparison)

An Assistant Chief Executive of the NCCA with responsibility for the LCA attended the LCA meetings. The Chief Executive and an Assistant Chief Executive of the NCCA with responsibility for the LCVP attend the LCVP meetings. The next diagram shows the overlap between the two steering committees:

[67] National Council for Vocational Awards

[68] National Council for Educational Awards

[69] Committee of Heads of Irish Universities

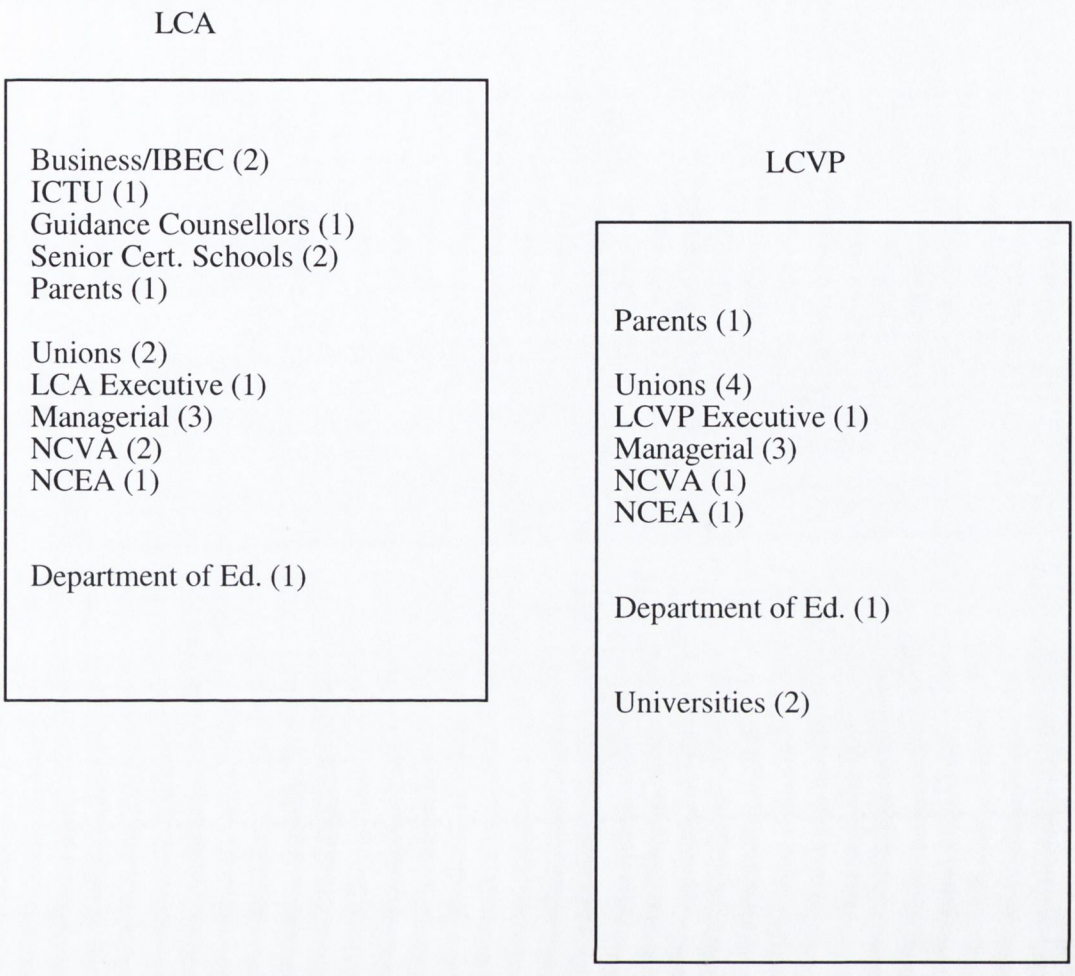

Figure 6.2 LCA and LCV Steering Committees (Overlap)

If the *overlap* is considered, it may be observed that in moving from the LCA to the LCV committees, the representation of the NCVA is lessened and that of the Department of Education increased. Moreover the number of representatives who are council members of the NCCA increases from six to eleven. If the *differences* between the composition of the two committees are considered, it may be seen that the group representing Business, the Social Partners (IBEC/ICTU), and Teaching Practice (rather than unionised labour) on the LCA committee is absent on the LCVP committee, which has a different element representing the committee of heads of the universities.

6.5 Knowledge, Skills, and Attitudes

The knowledge, skills, and attitudes intended to emerge from a student's participation in the LCV programme consist of the knowledge set out by syllabus committees for the subjects the student studies, and the skills and attitudes set out in the Link Modules prepared

by the NCVA and the LCVP Support Team. That is, students study

Leaving Certificate Irish.

Two Leaving Certificate subjects from the subject groupings listed below:

- Accounting & Business Organisation
- Engineering & Business Organisation
- Construction Studies & Business Organisation
- Home Economics & Business Organisation
- Agricultural Science & Business Organisation
- Art (Craftwork) & Business Organisation
- Home Economics & Agricultural Science or Biology
- Home Economics (General) & Art (Craftwork)
- Construction Studies, Engineering, Technical Drawing
- Agricultural Science & Chemistry

At least one other Leaving Certificate subject.

Three Link Modules on:

- Enterprise Education
- Preparation for Work
- Work Experience

Figure 6.3 LCV Course of Study

These structures are under review, the footnote below showing proposals concerning the

"exchange rate" for the new academic currency.[70]

The knowledge, skills, and attitudes intended to emerge from a student's participation in the LCA programme consist of the knowledge content of the modules, and the knowledge, skills and attitudes desired by employers. Through active participation in discussions concerning the LCA, the employers had indicated their desire for "basic skills in literacy and numeracy and general transferable skills". Such knowledge appears to be valued for two distinct reasons. The first is the value of skills and knowledge which are immediately and generally applicable in the workplace (literacy, numeracy, computer skills). Kellaghan sees these as *general* forms of knowledge and skill. The second is the value of skills and knowledge in the training and retraining procedures which contribute to industrial efficiency and increased productivity. Deficits in such knowledge and skills hinder the creation of a "skills surplus". Possession of such knowledge and skills ("general competencies") may not simply permit but enhance the operative's ability to benefit from subsequent job training and retraining.

It is unclear, however, what might constitute an *adequate* amount of skills and knowledge desired by employers. The OECD report warned that the contemporary demand for *functional literacy and the ability to be analytical* exceeded the demands of ten or twenty years ago, indicating that notions of what constitutes the adequate may need constant and

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[70] http://www.indigo.ie/lcvp/content.htm. Currently (1998), there is a "proposal from the Department of Education to to the National Council for Curriculum and Assessment (NCCA), the RTC's/DIT, the Conference of Heads of Irish Universities (CHIU), IBEC, further education and training bodies and other relevant national organisations. The document contained two main proposals:-

1.That a statement on the added value of the LCVP be circulated to relevant national organisations and bodies in order to elicit quotable, position statements on how such organisations view the advent of the LCVP as an educational programme and LCVP students as potential employees.

2.That the Link Modules of the LCVP be acceptable for points purposes by third-level educational institutions on the following basis :- for the purposes of recognition the Link Modules would not be treated as a full subject equivalent; points would be awarded as follows - 30 points for a pass, 50 points for a merit and 70 points for a distinction; students would have the opportunity to use their points allocation for the Link Modules as their sixth subject for the purposes of calculating total points.

The proposals have been supported by the NCCA subject to their being introduced on a pilot basis for a defined period and are currently the subject of discussion by third-level educational institutions. At the LCVP review meetings in May, almost all participants expressed support for the proposal to award recognition in points terms. It was felt that students deserve to have their work on the Programme recognised in tangible terms and that if the LCVP is to grow in status within the education system the work of students on the LCVP needs to be recognised and rewarded at third level." from The Leaving Certificate Vocational Programme - Summary of Progress Report 1995-96, http://www.indigo.ie/lcvp/progress.htm.

upward revision.

Under the heading of attitudes desired by employers may be put self-reliance, being innovative, independence, adaptability, and flexibility. It appears that the outcomes expected from such attitudes are better motivation at work; a readiness to be retrained throughout working life; a readiness to suggest improvements in product design and production processes; a readiness to acquire a basic understanding of how certain machinery works, to use machinery with due care, and deal with routine breakdown repairs.

An instructive contrast to the foregoing may be found in the *Vocational Education Act* of 1930 and *Memo V. 40* of 1942. The forms of work and employment envisaged are indicated by the way the courses of instruction were grouped: technical, domestic science, commercial, and rural. As discussed earlier, gender plays an important organising role, with different courses for each sex:

Male	Female
Technical	Domestic Science
Commercial	Commercial
Rural	Rural

and different subjects offered:

Male	Female
mathematics	arithmetic
general science	commercial subjects
rural science	domestic economy
art	
mechanical drawing	
woodwork	
metalwork	

with English, Irish, and Religion as common subjects.

The LCA has a local orientation too, this being possible due to the freedom of schools, it is said, to develop modules relevant to local skills needs and in cooperation with County Enterprise Boards. However, does this localism any longer have anything to do with *particular forms of trade skills*, as in in the 1930s? Flexibility is flexibility in Omaha or Omeath.

The LCA does not make any gender distinctions in the curricular areas on offer or the list of vocational options:

Memo V. 40		LCA
		Arts
Male	Female	Civic, Social, Economic
Technical	Domestic Science	& Cultural Studies
Commercial	Commercial	Language
Rural	Rural	Maths
		Science
		Technological Education
		Work Studies &
		Vocational Preparation
		RE, PE, Guidance

Memo V. 40		LCA
Male	Female	
	Irish	Gaeilge Chumarsaide
	English	Communications
	RE	RE
mathematics	arithmetic	Mathematics
general science	commercial subjects	Science modules
rural science	domestic economy	Science modules
art		Art, Music, Drama, Dance
mechanical drawing		Technology
woodwork		Technology
metalwork		Technology
history/geography		Social & Cultural studies
	PE	PE
		Guidance

Figure 6.4 Memo V.40 and LCA Compared (Gender Distinction)

It also may be seen that the names of the groups of subjects in continuation education have an orientation towards specific areas of work and employment: rural, technical, commercial, domestic science. There is no such overt orientation in the LCA until the list of Vocational Options is examined, when the possibility of a degree of gender differentiation is also evident.[71]

Year 1 List	Year 2 List
Agriculture/Horticulture	All options in the
Hotel Management	Year 1 list *and*
Construction/Manufacturing	Arts
Craft	Information Technology
Engineering/Motor Trade	Leisure and Recreation
Office and Retail	
Services	
Technology in the Home	

Figure 6.5 LCA Vocational Options

[71] Students were to take two vocational options in each year of the LCA programme.

Turning now to the knowledge, skills and attitudes intended to emerge from a student's participation in the modules of the LCA, clear differences with the LCV become evident. The LCV clearly relies on the existing Leaving Certificate subject syllabuses prepared by the NCCA and approved by the minister. By contrast, the LCA modules would be newly written. Moreover, the intended process whereby the LCA modules were to be prepared seems to have varied several times. On 7 July 1993, the Department of Education indicated that

> The Minister approves the Council's recommendation that the senior cycle provision be comprehended within one Leaving Certificate programme encompassing Higher, Ordinary and Senior Level courses....The revised Leaving Certificate programme will commence in September, 1995, and the NCCA will continue its work on revised syllabuses at all levels to meet this starting date. [72]

In November of 1993, the Department of Education announced that the Leaving Certificate programme would have "three main orientations": the Leaving Certificate, the LCA programme, and the LCV programme.[73] Under point 11 of the circular, the following is given:

> Modular Courses for the Senior Cycle
> Modules or short courses will be prepared by the National Council for Curriculum and Assessment in co-operation with the National Council for Vocational Awards for the Senior Cycle in a variety of subject areas.[74]

In 1994, the NCCA published the operational plan for the LCA programme. At 1.3 it is stated that

> The Minister has directed the NCCA to design and develop courses at all three levels of the Leaving Certificate for implementation in September, 1995.[75]

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[72] Department of Education, *Circular M. 31/93: Senior Cycle Options - Interim Arrangements for pupils entering Senior Cycle in September, 1994* (Dublin: Department of Education, July, 1993).

[73] Department of Education, *Circular M47/93: Revised Structure and Content of the Senior Cycle Curriculum September 1995 and subsequent years* (Dublin: Department of Education,November, 1993).

[74] Ibid.

[75] NCCA, *Leaving Certificate Applied Programme: Rationale, Philosophy and Operational Plan* (Dublin: NCCA, 1994), p. 1.

Under section 4, the "NCCA Enabling Structures" are identified: the Steering Committee (as discussed already), and a "specialist Working Group", the latter working "under the guidance of the Steering Committee and in active collaboration with schools".[76]

> The Working Group will liaise with the relevant course committees and the views of those committees on the proposed new courses will be presented to the Steering Committee. The Working Group will be responsible for the development of the structure, format and content of the programme. They will, through interaction with schools already involved in the Senior Certificate, VPT1 and other relevant schemes, design and develop each of the particular Applied courses.
>
> Week-end workshops, school visits and other interactions with schools will be used where necessary, to enable the specialists to complete their work.
>
> In certain areas, other individuals or agencies may be contracted to prepare specific aspects of the courses for incorporation into the overall programme.[77]

In other words, the NCCA Leaving Certificate syllabus committees ("course committees") would be consulted, but would not "design or develop" the LCA courses - the Working Group would work directly with schools, that is, the *teachers* already engaged in VPT and Senior Certificate programmes. It is not clear from this document whether the views of the syllabus committees were to be sought in general terms, before the courses were written, or whether the syllabus committees would comment on draft courses or final versions. Taken in conjunction with the earlier identification of the absence of university representatives on the LCA Steering Committee, the mode of developing the LCA courses set out here represents a further diminishing of the university's role in developing the LCA, and a strengthening of the role of teachers, rather than teachers' representatives.

On 23 February, 1995, the Department indicated that schools may offer "other vocational specialisms approved by the Department, including those developed by the National Council for Vocational Awards, CERT and TEAGASC".[78] This is a further innovation, permitting individual schools to submit draft modules for approval. A circular letter from the Department of Education of 7 December, 1995, indicated that such draft modules should be sent to the NCCA and the Department of Education for validation before any assessment

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[76] Ibid., p. 4.

[77] Ibid.

[78] Department of Education, *Circular M3/95: Leaving Certificate Applied* (Dublin: Department of Education, 23 February, 1995), 3.1, p. 2.

procedures took place.[79]

The structural differences between the LCA and the LCV programmes are further heightened by an examination of the efforts of the designers of the LCA programme to distinguish between General and Vocational education. It will be recalled that the LCV programme required that Irish, two subjects from the approved list of subjects, and one other subject be studied, in addition to the Link Modules, which are intended to address the specifically vocational matters of Enterprise Education, Preparation for Work and Work Experience. There is no requirement to study English, Mathematics, or a modern language.[80] On the other hand, the Department of Education indicated that the primary objective of the Leaving Certificate Applied programme was

> to achieve curricular breadth and balance through the establishment of a flexible structure for a common curriculum delivered on a modular basis.[81]

The LCA programme would consist of General Education, Vocational Education, and Vocational Preparation, with minimum time allocations of 30%, 30%, and 25%, respectively. General Education is said to be concerned

> with Arts Education, Civic, Social and Economic Education, Communicative Irish and Modern European Languages, Leisure and Recreation (including Physical Education). Mathematics is provided through Mathematical Applications in the Vocational Educational section of the Leaving Certificate Applied. Oral and written English are provided for through the Vocational Preparation section.[82]

The intention here appears to be to direct the reader who might expect to find mathematics and English in the General Education section of the programme to look elsewhere.

Vocational Education is said to be concerned

> mainly with the acquisition of knowledge and skills in vocational specialisms e.g.

[79] Department of Education, *Circular Letter S. 73/95: Arrangements for Certification of the Leaving Certificate Applied 1995-1997* (Dublin: Department of Education, 7 December, 1995), 5.3, p. 4.

[80] Effectively, all students do.

[81] Department of Education, *Circular M3/95: Leaving Certificate Applied*, 3.1, p. 2.

[82] Ibid.

> Agriculture and Horticulture, Hotel and Catering, Construction and Manufacturing. A full list of vocational specialisms for which outline specifications are being finalised by the National Council for Curriculum and Assessment is attached in Appendix 2.[83]

In addition,

> **Mathematical Applications and Information Technology will form an essential part of Vocational Education.**
>
> (Bold in the original).

Vocational Preparation is concerned with

> learning to facilitate direct transition from school to adult life. There are two aspects - (i) Vocational Preparation and Guidance and (ii) English and Communication. Vocational Preparation and Guidance will include knowledge, understanding and competence related to adult and working life, work experience and enterprise education. **English and Communication will include oral and written communication skills necessary for participation in adult and working life.**[84]
>
> (Bold in the original).

It has been shown in this work that precise definitions of general and vocational education have evaded a great variety of committees, councils, and researchers - a condition described in this work as "*general-education-itis*". What appears to be clear here, is that one purpose of the division, however odd, of the LCA into General Education, Vocational Education, and Vocational Preparation, is that the modules in mathematics and English were not intended to resemble the courses in mathematics and English of the LCV, that is, the courses in mathematics and English of the traditional Leaving Certificate, established by course committees involving university representatives. These divisions, signals, and bold typeface sentences, these *distinctions*, would also seem to be oblique indications to teachers that new forms of teaching might be required.

The trend identified in this work is that whether intentionally or not, the organisational structure put in place to develop the LCA programme diminished the role of the universities and strengthened the role of schools with experience of initiatives such as VPT and Senior

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[83] Ibid.

[84] Ibid.

Certificate in developing the curriculum. Attention now turns to teachers and the *practice* of curriculum development.

PART III - PARTICIPANT OBJECTIVATION

7 TEACHERS AND CURRICULUM DEVELOPMENT

7.1 Introduction

This section contains an examination of the participation by teachers in curriculum bodies. Falling within this examination is an attempt to assess the benefits of such participation upon career trajectories; benefits which accrue also to the author of this work. The activities of the NCCA senior cycle mathematics course committee are considered and linked with the curriculum development process from which the LCA programme emerged. The structure established to develop the mathematical course work for the LCA programme and this author's engagement in that structure is described.

7.2 Benefits and Interests

One of the major innovations in curriculum development in Ireland was the establishment of the *Curriculum and Examinations Board* (CEB) in 1984. Responsibility for producing courses of study shifted from informal, advisory committees established by the Inspectorate of the Department of Education for each subject, for each cycle, to formally constituted course committees reporting to an executive committee of the CEB (subsequently the NCCA), which, in turn, advised the Minister.[1]

One characteristic of the NCCA Leaving Certificate course committees is that two universities, the National University of Ireland and Trinity College Dublin, each nominate one representative, from an appropriate subject area, to sit on a subject committee. Junior cycle syllabus committees do not have such representation. The composition of a typical Leaving Certificate syllabus committee is as follows:

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[1] Oldham, "Mathematics in the Senior Cycle: The New Leaving Certificate Courses", p. 3, D. G. Mulcahy, *Curriculum and Policy in Irish Post-Primary Education*, p. 50.

Universities	-	2 members
NCEA[2]	-	1 member
Inspectorate	-	2 members (but one vote)
Subject Association	-	1 member
VEC	-	1 member
JMB[3]	-	1 members
ACCS[4]	-	1 member
ASTI[5]	-	2 members
TUI[6]	-	2 members

An Education Officer represents the Executive of the NCCA and assists the work of the committee. One member of the committee is elected as Chair. The diagram gives a breakdown of the committee structure.

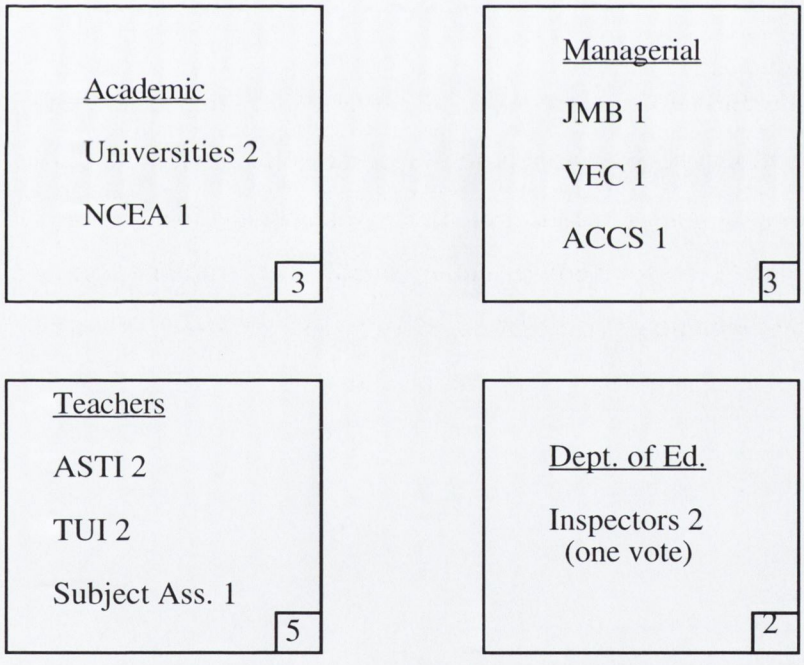

Figure 7.1 NCCA Syllabus Committee Structure

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[2] National Council for Educational Awards.

[3] Joint Managerial Board (representing the managerial authorities of secondary schools).

[4] Association of Community and Comprehensive Schools (representing the managerial authorities of these schools).

[5] Association of Secondary Teachers of Ireland.

[6] Teachers' Union of Ireland.

The process of selection of knowledge for inclusion in a syllabus is examined by Lynch, as is the character of the knowledge selected for transmission. The syllabus committees (as of 1989) are discussed and characterised by: the presence of a chairperson from the Department of Education; all participants have a third level education, and the presence of a "significant lobby from the universities".[7] Committee members, "highly successful within the educational system", are

> not likely to challenge, nor indeed have they done so in practice, the strongly academic orientation which has dominated the second-level syllabi since their inception...the programmes are almost entirely designed to test academic skills.[8]

The committees are said to be ultimately subject to the Minister *de jure* and to the universities *de facto*, and consequently are not free agents at all.

Howson, Keitel, and Kilpatrick, writing about curricular development in mathematics, see the mass character of education in the post-war period as promoting a desire that students should participate in the aims of a curriculum in ways appropriate to each student.[9] The accommodating moves of this period are seen as a shift away from the claims of the *academic* discipline of mathematics concerning "extent, selection, and sequencing", and towards *teaching method*.[10] In their view, this leads to the risk that content becomes the subject of arbitrary decision-making. The absence of teachers in the decision-making is described as the "so-called 'bureaucratic' innovative strategy", which results in the new syllabus being introduced without any preparatory in-service training and without any serious attempt to involve teachers in the reform process.[11] Where teachers are more involved in curriculum development, they appear to "soon tend to occupy an exceptional

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[7] K. Lynch, *The Hidden Curriculum*, op. cit. p. 40. However, not all chairpersons of NCCA (as opposed to CEB) course committees are or have been officials of the Department of Education., for example, the author of the present work. In addition, there are no third-level representatives on NCCA Junior Cycle course committees.

[8] Ibid., p. 41.

[9] G. Howson, C. Keitel, and J. Kilpatrick, *Curriculum Development in Mathematics* (Cambridge: Cambridge University Press, 1986), pp. 240 - 1.

[10] Ibid., p. 241. Emphasis added.

[11] Ibid., p. 244.

position, and will cease to be representative of the force as a whole".[12] Oldham's analysis of curricular development in mathematics in Ireland seems to mirror the shift, detected by Howson *et al* at international level, towards classroom practice. Thus

> ...courses have been found too abstract, or too long, so modifications have been introduced; and these modifications have been such that teachers could incorporate them into their classrooms with minimal change of teaching style.[13]

This picture of the teachers who take part in syllabus committees as lightning rods which earth the demands of the academic discipline (or the needs of the university?) in the reality of classroom practice (or the needs of the teachers?) requires more analysis.[14] While Lynch's implication seems realistic, that is, the teachers will not query the professors while standing, as it were, on the territory of the academic discipline, Oldham is probably accurate in her characterisation of teacher resistance to academic rigour as the teachers stating that the programme cannot be taught *in practice*. In addition, a specific of the Irish situation, as recognised by the OECD Report, is that the teaching unions are formidably strong, which must but strengthen the hand of the teachers, if they choose to exercise it.[15] Lynch and Drudy see little evidence of such use, except when issues directly related to pay and conditions arise.[16]

The committee members of course committees in Ireland are not paid for their work, but are reimbursed for travelling and minor expenses. Schools, but not third-level institutions, receive payments for the teaching substitution which may arise from the absence of teaching staff who attend committees. As participants continue to carry out the duties of their regular employment, syllabus committee duties represent additional, unpaid work. What constitutes this interest in disinterestedness?[17]

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[12] Ibid., p. 242.

[13] Ibid., p. 2.

[14] See below.

[15] Organisation for Economic Cooperation and Development, *Reviews of National Policies for Education: Ireland* p. 38.

[16] Drudy and Lynch, *Schools and Society in Ireland*, pp. 121-123.

[17] The nature and extent of these may vary from participant to participant. The significance of such participation for a university lecturer, or a school principal, or a teacher may vary. The case of teachers is under consideration here.

Bourdieu discusses the nature of interest, disinterest, and utilitarianism in the essay *Is a Disinterested Act Possible?*[18] A key concept here is that of the *game*, a term which Lynch also uses in the discussion of Irish parents' anxiety to know the rules of the game in the field of education, though as the following discussion reveals, Lynch's usage is not that of Bourdieu.[19] If a game is a contest within a *field* such as education, or artistic production, those who play the game must find it "worth the candle", they must have a relationship to the game which Bourdieu calls *illusio* or investment.[20]

> Each field imposes a tacit entrance fee: "Let no one enter here who is not a geometrician," that is, no one should enter who is not ready to die for a theorem.[21] If I had to summarise in an image all that I have just said about the notion of field, and about *illusio* which is at the same time the condition and the product of the field's functioning, I would recall a sculpture found at the Auch cathedral, in the Gers, which represents two monks struggling over the prior's staff. In a world which, like the religious universe, and above all the monastic universe, is the site par excellence of *Ausserweltlich*, of the extraworldly of disinterestedness in the naive sense of the term, one finds people who struggle over a staff, whose value exists only for those who are in the game, caught up in the game.[22]

This *practical* relation to the game is precisely what disappears under the analysis of those who do not participate in the game.[23]

> How do some go about reducing this description of the practical relationship between agents and fields to a utilitarianist vision (and *illusio* to the interest of utilitarianism)? First, they pretend agents are moved by conscious reasons, as if they consciously posed the objectives of their action and acted in such a way as to obtain the maximum efficacy with the least cost. The second, anthropological hypothesis: they reduce everything that can motivate agents to economic interest, to monetary profit. They assume, in a word, that the principle of action is well-thought-out economic interest and its objective is material profit, posed consciously through

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[18] P. Bourdieu, *Practical Reason*, pp. 75 - 91.

[19] K. Lynch, *The Hidden Curriculum*, p. 147.

[20] P. Bourdieu, *Practical Reason*, p. 78.

[21] This remark is particularly apposite to the work of the NCCA Senior Cycle Mathematics Course Committee. Heated arguments often concluded with the "losing" party or parties uttering the phrase "Well, I'm not going to die on the barricades for the Binomial Theorem" (or whatever). This phrase was used so often that, as in a game, it took on a somewhat comic - ritualistic aspect that concealed the fact that the argument had been conceded.

[22] P. Bourdieu, *Practical Reason*, p. 78.

[23] Ibid., p. 79.

rational calculation.[24]

In opposition to the first reductionist step, Bourdieu proposes that the relation of agents to ends is not at all the conscious calculation of usefulness that utilitarianism lends them; hence Bourdieu's view that cognitive structures are part of the embodied dispositions that constitute *habitus*.[25] Agents have a "feel for the game", for example,

> in games where it is necessary to be "disinterested" in order to succeed, they can undertake, in a spontaneously disinterested manner, actions in accordance with their interests. There are quite paradoxical situations that a philosophy of consciousness precludes us from understanding.[26]

That is, an agent may be rewarded for being disinterested in the carrying out of duties. In fact Bourdieu, like Machiavelli, proposes that civil society should plan for this to produce a "republic of virtue".[27] This interest in disinterestedness is called a disinterested or *generous disposition*.[28] There may be sanctions which remind the agent of the obligation of disinterestedness.[29]

In opposition to the second reductionist step, which reduces everything to lucrative interest, Bourdieu proposes that

> The evolution of societies tends to make universes (which I call fields) emerge which are autonomous and have their own laws. Their fundamental laws are often tautologies. That of the economic field, which has been elaborated by utilitarian philosophers: business is business; that of the artistic field, which has been posed explicitly by the so-called art for art's sake school: the end of art is art, art has no other end than art...Thus, we have social universes which have a fundamental law, a *nomos* which is independent from the laws of other universes...We are thus light-years from economism, which consists of applying to all universes the *nomos* characteristic of the economic field.
>
> ...What makes people enter and compete in the scientific field is not the same thing

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[24] Ibid.

[25] Ibid., p. 83.

[26] Ibid.

[27] Ibid., p. 89.

[28] Ibid., p. 85.

[29] Ibid., p. 87.

that makes them enter and compete in the economic field.[30]

Permanent whole-time post-primary teachers in Ireland receive a salary based on the possession and quality of academic credentials, and the number of years served in a permanent capacity.[31] Furthermore, a teacher may be appointed, after a competitive interview restricted to permanent whole-time teachers in a given school, to a post of responsibility. These posts, formerly known as 'A' Posts and 'B' Posts, are now called 'Assistant Principal' and 'Special Duties Teacher', respectively. Teachers may also apply for the position of Principal or of Deputy Principal as these positions arise and are advertised in the national newspapers.

The transformation of holders of 'A' Posts and 'B' Posts into 'Assistant Principals' and 'Special Duties Teachers' is a recent measure (1998), involving an increase in the financial award for these positions in exchange for a formalised appointment system. Heretofore, in secondary schools, access to these positions was governed by the simple principle of seniority, and enforced by the secondary teachers' trade union, the ASTI. In community and comprehensive schools, and in vocational schools, the appointment procedure was less rigid, but on occasion, contentious. The formalised appointment system introduced under the aegis of the PCW (Programme for Competitiveness and Work) sets out a schedule of points to be awarded to each candidate for appointment, which, when taken with the interview performance, constitutes the basis on which appointments are made. This schedule appears to codify practices which have been in use for some time, and featured in earlier attempts to reach agreement on these issues.

The importance of this issue here is that participation in curriculum development initiatives is specifically mentioned as an activity which attracts points. It is possible to quantify the value of this activity. Appendix 6 of the *Revised Teachers' PCW Proposals* sets out criteria for Selection Committees in "determining (the candidates') order of merit for submission to the Board of Management".[32]

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[30] Ibid., pp. 83 - 84.

[31] Drudy and Lynch, *Schools and Society in Ireland*, op.cit., pp. 95 - 101.

[32] *Revised Teachers' PCW Proposals*, December, 1996, p. 54.

Capacity of the applicant to meet the needs of the school and the case made at interview	50
Service to the school in a permanent wholetime capacity	30
Experience of a professional nature in the field of education and involvement in the school	20[33]

The Annex to Appendix 6, gives explanatory notes.[34] Regarding service to the school in a permanent wholetime capacity, it is remarked that

> The most senior applicant shall receive maximum marks - 30. Other applicants shall receive marks pro-rata e.g.
>
> Candidate A = 20 years previous experience = 30 marks
> Candidate B = 10 years previous experience = 15 marks
> Candidate C = 5 years previous experience = 7.5 marks[35]

Regarding experience of a professional nature in the field of education and involvement in the school, the following examples are given

> <u>In-school experience e.g.</u>
>
> (a) Contribution of applicant to the school
> (b) Experience as a post holder in a temporary or permanent capacity
> (c) Experience as coordinator of a school project
>
> <u>Out of school experience e.g.</u>
>
> (a) Professional Development (In-Service, etc.)
> (b) Subject Associations
> (c) Professional Associations
> (d) Work Experience
> (e) Course Committee Membership[36]

Teachers may also advance their careers by leaving the classroom to join the Inspectorate of the Department of Education, or be seconded to participate in executive roles in

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[33] Ibid.

[34] Ibid., p. 56.

[35] Ibid.

[36] Ibid.

curriculum development projects. Participation may also be based on partial secondment for so many weeks per year, or so many hours per week. Teachers may also be involved purely at school level, implementing pilot teaching of new curricular materials etc. Seconded teachers are thus freed from the duties and responsibilities of school and the classroom. Such absence from school may have a negative effect on teachers' promotional prospects in school, though they are entitled to attend for post interviews under the new PCW arrangements. Since the establishment of the CEB and the NCCA, positions as executive officers in these bodies have become available to teachers, though typically on the basis of secondment for a fixed term. An emolument to existing salaries is given to take account of the longer working year.

Teachers may also involve themselves with Education Departments in some universities. These universities teach and award the professional qualification required by most teachers, the Higher Diploma in Education (HDipEd), as well as other postgraduate awards.[37] Such involvement may be restricted to the paid supervision of teaching practice, the paid teaching of subject-based methodology, or more formally, by appointment to paid part-time lecturing positions, or to lectureships governed by the criteria and procedures of university appointments, this last representing a clear break with school teaching. Recent advertisements for such positions often indicate that significant experience of curriculum development is required. Teachers may take further degrees in Education, or other subject areas, with the academic awards attracting increases in salary and the possibility of obtaining promotional points for the positions of Assistant Principal and Special Duties Teacher.

It is important to distinguish the representative character of a teacher's service on a syllabus committee from the executive character of a teacher's participation in a curriculum project. In the first case the teacher is formally bound by the policies and objectives of the trade union or subject association. Effective activity may promote a career directed towards the teaching trade unions, or a career directed towards managerial positions. In the second case, the teacher may contribute to the policy formation of the curriculum project, but the model typically used in Ireland appears to be one of a Steering Committee representing the major players overseeing the work of others via executive officers. Effective executive

[37] Arrangements for teachers of Wood and Metal Technology, Technical Drawing, Art, and Home Economics are different, as these teachers take a joint degree in their subject and in education, with extensive teaching practice. Experienced teachers in these areas may involve themselves in the education departments of the universities and specialised colleges responsible for such courses.

activity may promote a career directed towards executive or managerial positions.[38] The possibility of an academic career seems more likely in the second case, as a curriculum project is likely to involve more publication than the first, with its essentially anonymous syllabus document as an outcome. Furthermore, the curriculum project is more likely to involve external validation by a university or advisory roles by university or teacher training college academics.[39] Curriculum studies projects may be initiated by universities, offering possibilities to teachers who take part to publish or to obtain postgraduate credentials.[40] The proximity of these career possibilities to involvement in a course committee and a curriculum project are shown in the diagram below.

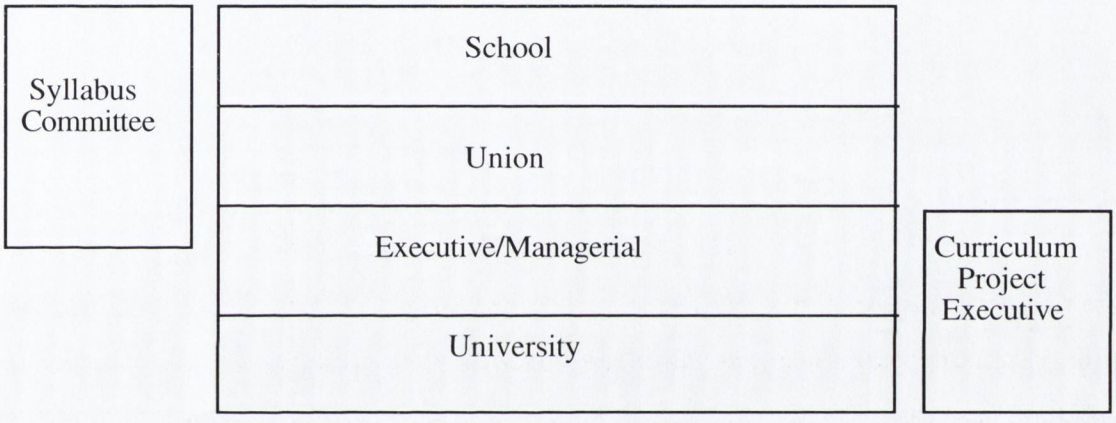

Figure 7.2 Career Possibilities and Syllabus Committees

Following the analysis of Bourdieu, the diagram might be read from top to bottom as extending from dominated to dominant regions of activity in the educational field.[41] Following O Buachalla, this field may be seen to lie at the lower level of power relations between the state and other significant groups in society. The middle region of the diagram marks the transition from the activity of organised labour to managerial activity, and in career terms, marks a clear break in orientation away from the representation of the perceived interests of the dominated fraction of the field towards the implementation of

[38] See the framework for development of the LCA programme above. The LCV programme was developed using a similar structure.

[39] See, for example, the *Applications Oriented Mathematics* project initiated by Tipperary (N.R.) VEC, the *SPIRAL I* and *SPIRAL II* projects organised by the Shannon Curriculum Development Centre, *ISCIP* and the *Humanities Project* organised by the CDVEC Curriculum Development Unit, based in Trinity College, Dublin.

[40] See, for example, the PEEP study, carried out by Trinity College, Dublin.

[41] P. Bourdieu, *Homo Academicus*, *passim*.

dominant managerial policies. Career trajectories beginning from a syllabus committee should not have difficulty in accessing destinations in the managerial region, providing the implementation of the work of the syllabus committee has taken place within a consensus of interests of all parties. Where such activity has been the locus of conflict, such destinations might be ruled out by the possibility of refusal, or the possibility of accusations of bad faith.

The author of this work was a member (1988-1994) and Chair (1994 - 97) of the NCCA Mathematics (Senior Cycle) Course Committee, an occasional lecturer in Mathematics Methods to HDipEd students in a Dublin university (1991 - 97), and had completed the course work for a Master's degree in Education.

7.3 Mathematics

The most recent period of curriculum change in mathematics at the Leaving Certificate level of post-primary education in Ireland began at the end of 1988.[42]

Change in the junior cycle mathematics curriculum was already underway by 1988, with three courses, known as Syllabus A, Syllabus B, and Syllabus C, already introduced in 1987 within the *Intermediate Certificate* programme.[43] In 1989, these courses were absorbed, unchanged, into the new Junior Certificate structure as the Higher, Ordinary, and Foundation courses in mathematics; the Day Vocational (Group) Certificate course in mathematics being discontinued with the demise of this programme.[44] Thus change in the mathematics curriculum had started at least two years in advance of changes in the entire curriculum structure.

Courses of instruction in mathematics within the Leaving Certificate programme had been designed to follow on from courses of mathematics within the junior cycle. In 1988, mathematics could be studied at two levels, Higher and Ordinary, within the Leaving

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[42] E. E. Oldham, "Senior Cycle Mathematics Curricula in the Republic of Ireland: Courses for the 1990s -- Gospels, Epistles and Revelations?", paper presented at the 17th Annual Conference of the Educational Studies Association of Ireland, 27th March, 1992. "Mathematics in the Senior Cycle: The New Leaving Certificate Courses", *Studies in Education*, Vol. 8 no. 2 (Autumn 1992).

[43] Oldham, "Mathematics in the Senior Cycle: The New Leaving Certificate Courses".

[44] Department of Education, *Rules and Programme for Secondary Schools 1988/89.* (Dublin: The Stationary Office, n.d.), pp. 39-64.

Certificate programme.

Oldham's account of these early innovations in school mathematics views them as a result of that subject being in the forefront of curriculum change in Ireland from the 1960s.[45] New Leaving Certificate courses, at two levels, were introduced in 1964.[46] These replaced the curriculum of 1924.[47] New Intermediate Certificate courses were introduced, at two levels, in 1966.[48] The advent of free education in 1967, with consequent higher participation rates, introduced a need to accommodate a wider range of student attainments in mathematics, a need addressed by the measures of 1987, whereby mathematics courses were provided at three levels .[49]

A broader aspect of such changes in mathematics was the proposal to replace the two existing junior cycle programmes by *one* new programme, the Junior Certificate, in 1989[50]. In consequence, consideration of changes in mathematics at the Leaving Certificate level would now have to take account of the possibility of major change across the entire Leaving Certificate programme, in addition to the fact of the changes in junior cycle Mathematics of 1987.[51] In short, new programmes in mathematics for Leaving Certificate would have to be prepared at once, but in advance of a fully formulated government policy for the entire senior cycle.[52]

The Leaving Certificate syllabus committee produced a mathematics syllabus for each of three courses: the Higher level course, the Ordinary level course, and a third course. The issue of creating the third course, designed to deal with an annual failure rate of the order of

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[45] Oldham, "Mathematics in the Senior Cycle: The New Leaving Certificate Courses".

[46] Ibid.

[47] OEEC, *New Thinking in School Mathematics*, (Paris: OEEC, May 1961), p. 181. There were some minor changes between 1924 and 1966.

[48] Oldham, "Mathematics in the Senior Cycle: The New Leaving Certificate Courses".

[49] Ibid.

[50] The two programmes were the Intermediate Certificate and Day Vocational (Group) Certificate, respectively.

[51] Oldham "Mathematics in the Senior Cycle: The New Leaving Certificate Courses".

[52] Ibid.

20% at the existing Ordinary level, involved the committee in a great deal of contentious discussion with the executive officers of the NCCA, officials of the Department of Education and, on two occasions, with the Minister. Issues raised at these meetings included: Would the proposed third course in mathematics introduce a third level into the Leaving Certificate and so constitute a dilution of its standing, especially in a period of activity within the European Union centred on the mutual recognition of national educational qualifications? Should the failing cohort be accommodated within the Leaving Certificate at all, or within the Senior Certificate programme, a pilot programme established to retain early school leavers in the educational system? Could the Senior Certificate programme be established at national level by the NCCA to meet the needs of the failing cohort in mathematics? How might the mathematics component of the Senior Certificate be captured by the NCCA syllabus format, given that this component was part of what was described as an 'integrated course', driven by 'methodology rather than content' ?

The Minister decided to establish, as an interim measure, the third course as the Ordinary level Alternative course[53] . That is, mathematics was to be examined within two levels, Higher and Ordinary, but clearly addressing three groups of students. Following this, another round of discussions began. An immediate issue concerned the degree to which bodies would recognise the Ordinary Alternative course for entrance to third-level institutions, training courses and courses established by professional bodies.

A change of government brought a new decision: The Ordinary level Alternative course was to be replaced by a Foundation level course. That is, mathematics would be examined at *three* levels within the Leaving Certificate programme, as in the junior cycle.

In 1994, the Leaving Certificate Applied (LCA) was established, based on the experience gained through the Senior Certificate and other similar initiatives and intended for national implementation.

The author of this work was invited by the NCCA to attend a meeting in the University of Limerick on the 11th. July, 1994. The purpose of the meeting was to assemble two groups of people (four in all) expert in the areas of mathematics education and Irish (Gaeilge) education respectively, to "...look at what changes need to be made in Senior Certificate

[53] July, 1990.

mathematics and Irish courses so that such courses may be incorporated into LCAP." [54]

A background briefing, documentation concerning the LCAP, the intended mode of implementation, and time-frame were given at a plenary session[55]. Two groups then met separately to discuss details particular to each subject. Questions raised on the basis of existing documentation such as the *Green Paper*, the NCCA document *LCAP Rationale* etc. were answered by an indication that some matters had changed and that a new circular would be issued by the Department of Education, which would clarify outstanding issues[56]

The other teacher with experience of mathematics education did not proceed further with this element of the LCA. The author of this work expressed a willingness to contribute as a member of a development group, but wished to remain detached from the NCCA executive structure, to avoid any conflict with another role as Chair of the mathematics course committee[57]. In consequence, it was agreed that a Development Officer would be appointed to act on behalf of the NCCA and the LCAP Steering Committee for the purposes of the mathematics component of the LCAP. An initial meeting of the mathematics group would be arranged for the Autumn.

The analysis of the interest in disinterestedness which accrue to a teacher participating in curriculum development have been given here so that the influence of such interests upon the author of this work, and hence upon the work, may be assessed. This work contains materials and information that are available only because this author participated in the development of course materials for the LCA programme. The fact that every document was carefully kept indicates an awareness of the possibility of producing an academic work. Further evidence of an academic disposition is given now, through the inclusion of a communication from this author to the LCA Programme Manager and a discussion of its import.

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[54] Personal notes of 11/7/94.

[55] The work was to be complete by May of 1995.

[56] Personal notes of 11/7/94. The circular was eventually issued as: Department of Education, *Circular M3/95: Leaving Certificate Applied* (Dublin: Department of Education,February, 1995).

[57] The executive interests of the NCCA are represented at course committees by an Education Officer.

8 A DISCUSSION DOCUMENT OF 15TH. OCTOBER, 1994

8.1 Introduction

What of *illusio*? Attention is now turned towards the practice of the development of the Mathematical Applications modules of the LCA programme. The mathematics course work for the first year (1995-96) of the LCA programme was written within a framework designed by this author during the period October - December 1994.[1] A discussion document setting out the first attempt at a framework was sent to the Project Manager on the 15th. of October of 1994 - that is, after the IACD conference of the same date. The document given here is identical in every respect, save that the names of persons have been removed.

8.2 A Discussion Document of 15th. October, 1994.

In the context of Aims and Objectives, I think that Mathematics in the Senior Cert. and LCAP is intended to be a Mathematics course in a different sense from that of Maths courses in LC Higher, Ordinary and Foundation. The document LCAP - *A Framework for Development* (December,1993), describes Vocational Education/Training (7.1.2):

> The acquisition of a range of skills, including language, mathematical, practical and technological competences, which may be applied in the pupil's immediate vocational preparation and prospective work situations.

Courses are to be developed in core areas, one of which is Mathematics: Applied courses with practical, work related investigations.

Section 8 on Assessment and Certification includes the requirement (8.4):

> Assessment should give adequate recognition to the applied nature of courses.

The document *LCAP- The Student Task* describes a *Task* as one mode of assessment which promotes curriculum integration (1.2), and has as one of its goals (2.4):

> To enable students to apply to practical problems the knowledge, understanding, skills and competences developed by participation in the modules.

Amongst the evidence of *Task* performance submitted by the student, there should be a *Report* (3.0). Amongst the criteria for *assessment of the Report*, consideration should be given to:

> Understanding of concepts (General Education)

while amongst the criteria for the *assessment of the Task performance* consideration

[1] The name LCAP changed to LCA during the course of the year.

should be given to

> Precision and quality (Vocational Education).

Thus, in summary:

> a Maths course at LCAP involves the student acquiring mathematical competency which may be applied in the student's immediate vocational preparation and prospective work situations.
>
> The course is to be applied in nature, with practical, work related investigations.
>
> Assessment should recognise the applied nature of the course.
>
> Over the two year programme, the student should complete three half year Tasks, with external assessment provided by the Department at the end of the programme.
>
> Each Task should enable students to apply to practical problems the knowledge, understanding, skills and competences developed by participation in the modules. [Is this list a prescriptive one, intended to apply to ALL *Tasks*, or is it a descriptive list, whose application to Mathematics is restricted to "mathematical competency" ?]
>
> Amongst the evidence of *Task* performance there should be a *Report.*
>
> Assessment of the *Report* involves, *inter alia,* assessing *Understanding of concepts* (General Education) while assessment of Task performance involves, *inter alia, Precision and quality* (Vocational Education). [As Mathematics is to be placed in Vocational Education (1.3), what does the emphasis on *understanding of concepts* in General Education and *precision and quality* in Vocational Education, imply for assessment in Mathematics ?]

Consider the document *Leaving Certificate - Mathematics: Foundation Course - Rationale and Development* (July 1994). The second bullet point in the Executive Summary remarks:

> The Foundation Course should provide general, rather than vocational, education. Therefore, the general aims and objectives formulated for the current Leaving Certificate courses remain appropriate.

These general aims and objectives are given in the Leaving Certificate Mathematics Syllabus (An Roinn Oideachais) pp. 1-3, and are based on a taxonomy of learning. Moreover, the document *Leaving Certificate - Mathematics: Foundation Course* (draft of October 1994) - Section 3, remarks that these fundamental objectives are to be interpreted in the context of the following aims of the Foundation course:

- development of students' understanding of mathematical knowledge and techniques required in everyday life and employment;
- particular emphasis on meaningfulness of mathematical concepts;
- acquisition of mathematical knowledge that is of immediate applicability and usefulness;

- introduction of the student to mathematical abstraction;

- maintenance and enhancement of students' basic mathematical knowledge and skills;

- encouragement of accurate and efficient use of the calculator;

- promotion of students' confidence in working with mathematics.

The matter of assessment is, I suppose, governed by the principles set out on page 35 of Leaving Certificate Mathematics Syllabus (An Roinn Oideachais):

> It is envisaged that, at present, the courses would be assessed by means of terminal written examinations. The following principles would apply:
>
> A. The status and standing of the Leaving Certificate would be maintained.
> B. Candidates would be able to demonstrate what they do know rather than what they do not know.
>
> C. Examinations would build candidates' confidence that they can do mathematics, rather than undermining the confidence of those who do attempt them.
>
> (A note is added to the effect that assessment by formal written exam limits the assessment objectives - in particular, problem-solving, communicative and creative skills, and work done with the aid of computers cannot be assessed as of now). (My emphasis added.)

At the level of the NCCA Leaving Certificate Mathematics course committee, an understanding was established whereby questions in the exam would be structured into three parts, seeking to assess recall, knowledge of and accurate working with algorithms, and more complex procedures.

A distribution of marks of 10, 20, 20 or 15,15,20 over the three parts of each question would permit some kind of grade criteria to be established. Thus, a student who could correctly answer part (i) and make a reasonable attempt at part (ii) of each question attempted would obtain a passing D grade - indicating good recall and a satisfactory degree of work with standard algorithms, procedures and skills. Lower C grades would reveal good recall and good algorithmic learning, while progression to higher C grades and beyond would be consequent on increasing degrees of more complex learning, assessed by part (iii) of the question (ie ability to transfer skills, use good problem solving strategies, capacity to deal with abstraction etc.). This approach is also applied to the Ordinary -Alternative course (and, hopefully, by extension to the Foundation course).

In summary, then: The LC Foundation course is positioned between the "push" of the Foundation course in Junior Cycle and the "pull" of the other LC Maths courses. That is, it has its place in a continuum of math instruction. This continuum can also be thought of as a continuum of math content OR as a continuum of developing math understanding on the part of the student.

The aims of the LC Foundation course (as set out above), the knowledge we have of the characteristics of the target population, and the "pull" of the Ordinary Maths course; all guide the writing of the content.

A taxonomy of learning permits a classification of the content and in particular, the degree

to which the content demands some complex or abstract learning (this, I presume, is a necessary condition for a course to be a Leaving Certificate course. What the sufficiency criterion is, appears to be what the issue of recognition is in part about!).

The taxonomy of learning permits some sort of appropriate structure to be put on the form of assessment given in the LC - and also indicates what such assessment will miss. In addition, the establishing of some sort of grade criteria may be possible. [NB - the issue of methodology is not directly addressed. The aims indicate some general principles which I interpret as broadly saying that the bulk of the course is to address recall and algorithmic learning; the element of more complex or abstract learning is to be introductory in character. The methodological issue of the transition from instrumental to relational learning does not find a place here, given the form of Syllabus the NCCA uses. However, ...'s document clearly stresses the need for in-service to address these issues.]

Discussion

All of this seems very legalistic and dry - the quoting of paragraphs, definitions and so on. What may happen in classrooms is another matter, and a very complicated matter too! In this regard, I think the LCAP is at a distinct advantage over the LC Foundation, in that as a "methodology driven course" and with a controlled introduction to the school system (hopefully informed by that methodology), the LCAP may function better as a *curriculum* than the LC does at any of its levels.

This raises a point that I haven't really had an opportunity to discuss with yourself or NNNN what is the methodology? What is the learning theory behind it? What is the taxonomy of such learning?

My initial understanding of Senior Cert. maths was that the first year of the course was a maths course, with the second year devoted to applications in the various "numeracies". From our last meeting I understood from NNNN that the maths is embedded in and motivated by a sequence of applications *from the first year of the programme on*. Is this the case? From what you seemed to be saying ....this was the type of approach you wanted in LCAP, and the whole idea of the *Task* seems to hinge on such an approach.

I have sympathy for such an approach and I am familiar with this under various headings: the approach of Vygotsky and his school, concerned with the *social* basis of learning as an interaction between the learner/apprentice and the competent adult/mentor. (A key idea here is the gap between the performance of a student acting alone and that of the same student nudged and encouraged by the instructor in the context of co-operative learning and work. The latter performance is used as a rough guide to the current learning *potential* of the student. Cazden uses the term *performance before competence* to describe this apprentice type learning.)

The American followers of Vygotsky, the first of these being Bruner, have done a great deal of work on an appropriate methodology. Campione,Brown and Ferrara at the University of Illinois are leading scholars. Other work has involved cognitive and other analyses of the apprentice type learner, including such *exotica* as the mathematical content of apprenticeship of journeymen tailors amongst Senegalese nomads. A lot of this work is reported in Rogoff & Lave, who looks at some maths programmes in the US built around learning maths in *contexts* with the competent adult/tutor (eg supermarket maths).

I became interested in this approach because I was interested in the diagnostic aspects of such a methodology in a remedial/compensatory context, where outcomes in the form of standard scores are not of interest (as being *static* measures) but where some sort of measure of *capacity to benefit from interactive instruction* was at issue, and this could only really be approached by some sort of assessment on the move, a *dynamic* assessment, attempting to see what sort of nudging and pushing was required to get the student moving on the task in hand.

It is worthwhile noting that this approach guarantees a heightened performance by the student and consequently addresses a fundamental principle of remedial work: activity should build the student's self-esteem and prepare the ground for independent, competent performance.

A leading scholar in this area is *Feuerstein.*

What I am labouring to say here is that I think there is a respectable and intellectually honest basis for such a mathematics programme in LCAP. What I mean is, there is the basis for such a type of maths learning.

Certain features stand out:

> meaning emerges from a social context of co-operative work/instruction with an adult instructor
>
> the student is supported (scaffolded) in his/her endeavours
>
> observation of the student during such interactive instruction gives an indication of the student's current potential performance and consequently, what sort of objectives may be set as targets, within the givens of time-scale, typical course contexts etc.
>
> such assessment should be flexible and be sensitive to progress on the part of the student (affective and cognitive)
>
> outcomes will be varied - (I guess the best performance will be at the *Task* assessment, in which I imagine the student will get a lot of support - at least at first). The external assessment may be more problematic, particularly if it is context free (abstract) or the context is described in written form. Some students may recognise the context and apply the appropriate math technique "it is one *those*, so we do this"; others will mistake the context and miscue the appropriate procedure. Others will be so unnerved that this stage of the assessment will fail entirely.

These points describe in very general terms where the LCAP Maths may start and what its methodology may be like. (I'll look at these in more detail below). The more difficult question is, however, where is the LCAP going?

The key issue here is the issue of context.

The student may learn to use some mathematics in certain contexts and to report on that experience and communicate the results. Is it relevant (sensible, permissible, productive?) to talk about transfer of maths skills to other (similar, not obviously similar) contexts?

The answer to that question depends on what the expectations for LCAP maths are. Does its position inside Vocational Education, with a consequent emphasis on assessing quality and accuracy rather than conceptual understanding, mean that the issue of transfer of skills (relative freedom from context) does not arise? If this is the case, then the role of the external assessment by the Dept. must be to support that aim, not undermine it.

If, again, transfer of skills is not demanded or expected, then I would be interested in the thinking behind that point of view. This view might be represented by the statement:

> certification indicates that the student has proven capable of acquiring a certain mathematical competence in a given set of contexts.

Prospective employers would need to be aware that they may need to provide appropriate training in the mathematical skills used in the (new or different) contexts of their businesses but that the certification indicates that the student is likely to be receptive to such training.

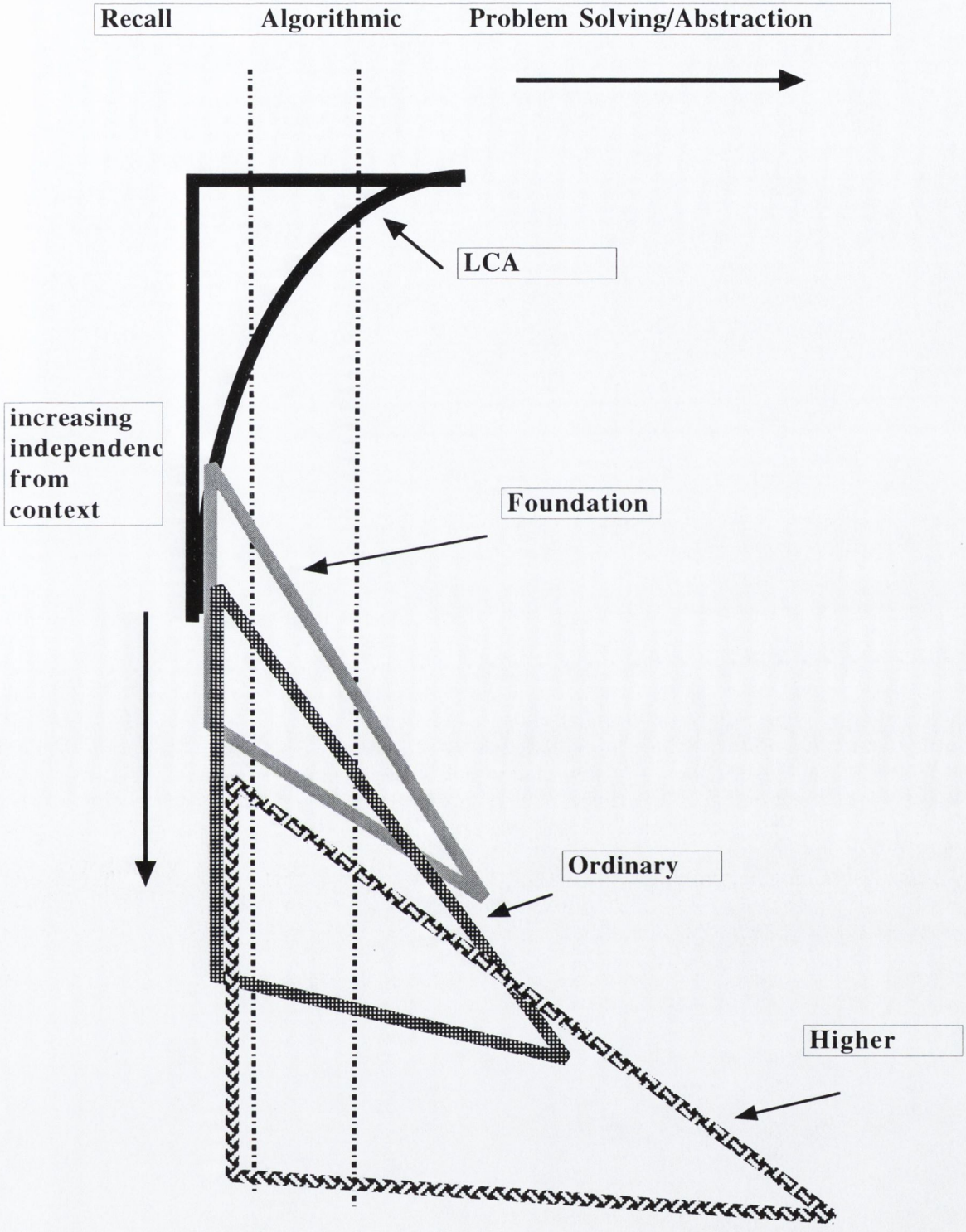
Moreover, am I right in assuming that as the student goes from the first year of the programme to the second, the student selects an area or areas (eg Lab work) within which the further study of more maths will take place? If this is the case, then it demonstrates an interesting phenomenon: that is, the context of application becomes more limited while the complexity of technique increases. Is this a feature that is characteristic of vocational rather than general courses of education?

The diagram shown below as Figure 1 seeks to grasp some of the features I have been discussing. As with all of these diagrams, too much can be read into where the triangles touch, what the area of each represents etc. The essential features I wish to capture are:

1. Some characteristics of **traditional** LC maths courses and their relationship one to the other

2. A possible characteristic of the **applied** LC maths course and its relationship to the traditional courses

3. As abstraction and freedom from context are practically synonymous, we would expect in such a diagram a drift towards the bottom right. Such a prediction is based on most orthodox theories of learning. In developmental approaches to learning, it is the recommended route that instruction should seek to follow.



This third point is perhaps the issue of most concern to those who express reservations about vocational education within the general school system. If development is in some sense lead by instruction, what happens to the students who make some sort of developmental breakthrough within a vocational course? It is perhaps to be expected that they would do well. More importantly, does the instruction seek to promote development? Is the assessment procedure used sensitive to such a breakthrough? I am not suggesting that the detection of such developmental changes is important so that the student can start doing the traditional Leaving Cert.! (Though the discussion at the ESAI conference last Saturday on the possibility of the first year of LCAP in Transition year, followed, where appropriate, by entry to one of the other L.Cert. courses was interesting.)

What I am saying, is that a vocational programme should have some developmental aspect

to its instructional technique, and that assessment procedures should have at least one element of open-endedness geared to detect the developmental advances represented by such behaviour as transfer of training, problem-solving etc., and that the certification should have an element which reports this.

Writing the syllabus

I enclose the results of an experiment I carried out with Ord.Alt. Maths. I took a sub-section of the syllabus and wrote 17 lesson objectives based on the content described by this sub-section. For each lesson I wrote down the behavioural objectives in the usual form of expected student behaviours. I then wrote 17 worksheets to guide the work of the class towards these objectives. I then wrote a test which sought to assess whether a student had met the expected objectives.

The document consists of the worksheets (pp.1-23), the test (pp.24-28), the objectives (pp.29-30), and the relationship between the test items and the objectives (pp.31-32).

It may be possible to adapt such an approach to the Tasks which form the major element of on-going assessment in the LCAP. Thus a mathematical Task would be described in terms of:

1. A context

2. A list of behavioural objectives

The Report of the Task may then be assessed in terms of the degree to which it shows evidence that the student has met these objectives. The issue of how much support the student has received in completing the Task and in writing the Report may be addressed

either

(i) explicitly, by means of a teacher's report

or

(ii) implicitly, by means of a short assessment of the behavioural objectives (something like the test I enclose, but with each test item consistently framed within the context of the Task)

or

(iii) implicitly, by interview

or any mixture of these three.

(The point at issue here is not that the student gets assistance (they should) but that over time, over Tasks, we would wish to see evidence that the need for such amounts of support would decrease.)

The outcome of such assessment gives a context, and a list of mathematical behavioural objectives met. Such a mode of description of a Task as a set of couples or coordinates of the form (context, objective) permits

1. a comparison between Tasks
2. a means of checking whether a preparatory or component investigation is heading in the right direction
3. a guide to external examiners as to the style and content of the assessment provided at the end of the two year programme

Such a mode of description of the assessment of a Task Report of an individual student as

a set of couples or coordinates of the form (context, objective met) permits

1. a summative listing for the individual of
   (i) contexts encountered
   (ii) objectives met at the end of the First Year of the programme
2. a guide to an individual student as to which specialisation(s) are appropriate during the Second Year of the programme (see below)
3. a summative listing for the individual at the end of the entire programme

In practical terms, the experience of the Senior Cert. programme can be put to very good use by examining the investigations with a math content which are current in that programme, and using them to frame (context, objective) guidelines for Task 1 and Task 2. That is, it would be possible to list contexts and behavioural objectives for Tasks 1 and 2 so that they would encompass investigations that are currently successful, are considered to be good practice, and for which supporting materials have been developed.

Managing the transition to Second Year

When I was with you in Limerick, I mentioned a technique that ....developed in REHAB as a guide in directing students towards particular vocational courses. For **each** course, the instructors chose a base-line set of mathematical behavioural objectives from the Drumcondra Criterion Referenced Maths Test as an entry requirement/recommendation for their course. The union of all such base-line sets are put together in a test.

The entering students, as part of an extremely thorough assessment procedure, are given this test, and can be assigned a score as follows: for Course A, the student has achieved say, 78% of the base-line set of math objectives for that course. For Course B, the student has achieved say, 17% of the base-line set of math objectives for that course. And so on. This procedure indicates the sort of pre-course work required before the student is "ready" to begin work in that course. It also counter-indicates courses for which the amount of preparatory work would be beyond resources available. Some students, of course, prove to be ready to start work on a particular course at once.

Whether such an industrial, rigorous mode of operation is appropriate for school is an interesting question. (I don't think it is appropriate). What is possible, however, is the use of such an approach in guiding the student towards a suitable specialism (context specialised) in the Second Year of the LCAP programme. As I mention above, the use of the (context, objective met) mode of summative assessment permits a comparison with a set of base-line entry objectives which the teacher of each specialism in Second Year could recommend.

9 THE SOCIAL BASIS OF LEARNING

9.1 Introduction

Several aspects of the foregoing document are of interest. At one level the document speaks for itself: it is a serious communication requesting clarification of certain issues. It shows evidence of familiarity with and experience of the problems of teaching and learning mathematics, and of thought and reading about those problems. That is, there is evidence of engagement with a *rational pedagogy*, and with the *explicit discussion of methodological questions*; and an understanding of the need to make content explicit so as to match assessment to learning; all aspects one would expect from a trained remedial teacher and lecturer in mathematics methodology in a university. It shows evidence and experience of the problems of syllabus construction, as one would expect from a member of a syllabus committee. It does not show a familiarity with the *practice* of the Senior Certificate programme. It shows an implicit *commitment to the game*. The terms of this commitment, the *illusio*, require to made explicit.

The "legalistic and dry" consultation of the policy documents is, in effect, a study of the rules of this particular game. As such, it immediately concedes authority, without ever questioning it, to the authors of policy. "Complex or abstract understanding" is taken to be the criterion which admits a course to the standing of a Leaving Certificate course; the sufficiency of this attribute determining the level: Higher, Ordinary, or Foundation. The extent to which course content is independent from context is said to be a measure which permits a distinction between general and vocational education to be made. The transition from understanding in context to an understanding free of context is thought worthy of notice and special certification; the former being evidence that the student has demonstrably been shown to be capable of being trained, the latter indicative of something else, something superior. The full "industrial" rigour of training programmes is found to be inappropriate to school.

The concession of authority is indicative that this author no longer considered himself to be directly representative of his trade union in participating in the development of the LCA. The decision not to accept the offer to be Development Officer may indicate a refusal of co-option by the structures of the NCCA: such a co-option would compromise the role as a

trade union representative on the NCCA Mathematics Course Committee; moreover it would possibly tend to compromise the possibility of an academic work, the position of Development Officer being perhaps too driven to permit cool appraisal of the work in hand.

The distinction made between general education and vocational education occurs within a particular context, mathematics. The nature of the distinction seems to be that of Plato: with vocational education in mathematics (something like "Mathematical Methods" or "Quantitative Methods" courses taught in universities and colleges) there is not time to investigate the full nature (i.e. full *generality*) of the problems or their solutions. Often the aim is to carry out very complex calculations related to manufacturing or technological processes. The origin and development of the mathematical techniques used may not be mentioned or may be cursorily described: the point of instruction is *competence*.[1]

The acceptance of "complex or abstract understanding" as the criterion which admits a course to the standing of a Leaving Certificate course, and that the sufficiency of these attributes would determine the level, appears to be commitment to the value of the *theoretical*.

The belief that the full "industrial" rigour of training programmes is inappropriate to school is an indication of the belief that the time and resources necessary would not be provided in schools; evidence perhaps of Bourdieu's view that the *utopian* pedagogy of the liberating school will always come up against the realities of the provision of resources, a reality structured in turn by the balance of political forces in society. The model provided by REHAB provides a rational basis for the decision to direct trainees towards certain courses of training rather than others: if the amount of time and instruction required to bring the student to the level of skill required for initial participation in a particular course exceeds a certain allocated quantum of resources, the course is counter-indicated for this trainee. Cast in these terms, the resemblance of the REHAB model to remedial teaching becomes stronger, though the courses of action available to the teacher are fewer: given a student *like this*, will the remedial resources available permit participation in *any* school programme and its assessment, or should the priority be to have the student acquire life-skills, and bypass

[1] Bourdieu and Passeron suggest that the degree to which instruction has a theoretical character acts as a filter intended to distinguish the technician from the engineer. That is, the theoretical character may be included not for pedagogic ends but for hierarchical ends.

the school cycle of following a programme and being assessed?

The view that the transition from understanding in context to an understanding free of context is thought worthy of notice and special certification; the former being evidence that the student has demonstrably been shown to be capable of being trained, the latter indicative of something else, something superior, requires attention.

This author's communication of 15th. October, 1994, asked for some information about the methodology, the learning theory, and the taxonomy of learning which lay behind the Senior Certificate (and by extension, the LCA) programme's practice of embedding the mathematical techniques in a sequence of contexts from the very beginning. Certainly the notion of the Task as an organising principle seemed to hinge on this approach. The communication continued:

> I have sympathy for such an approach and I am familiar with this under several various headings: the approach of Vygotsky and his school, concerned with the *social* basis of learning as an interaction between the learner/apprentice and the competent adult/mentor.
>
> The American followers of Vygotsky...have done a great deal on an appropriate methodology....Other work has involved cognitive and other analyses of the apprentice-type learner...A lot of this work is reported in Rogoff and Lave who look at learning maths *in context* with *the competent adult/tutor...* [2]

Appendix A in Volume Two of this work contains a preliminary discussion of the work of Vygotsky and certain American scholars who work in that tradition. The next section discusses the impact of this school of thought on this author's contribution to the curriculum development project.

9.2 This Author's Views Of The Theory of Learning

This author accepted as accurate the characterisation of the developmental stages of thought set out by Piaget.[3] The consequence of this for *teaching methodology* is that an instructor teaches a group of students with the expectation that the students are possibly at differing

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[2] *Communication of 15th.. October, 1994.* See Chapter Eight.

[3] It should be noted that the point of this formulation is to highlight the relation between an essentially *biological* notion, development, and a quite specifically *cultural* institution (environment), the school. The notion of *development* requires further consideration - see below.

stages of what is termed *development* and that this will have an effect upon the students' engagement with the taught curriculum. One expects movement towards further stages of development by the students. The end point of this developmental sequence is formal operational thought, characterised by, *inter alia*, abstract, logical thinking, and a capacity to engage effectively with areas of the curriculum which require such thought.

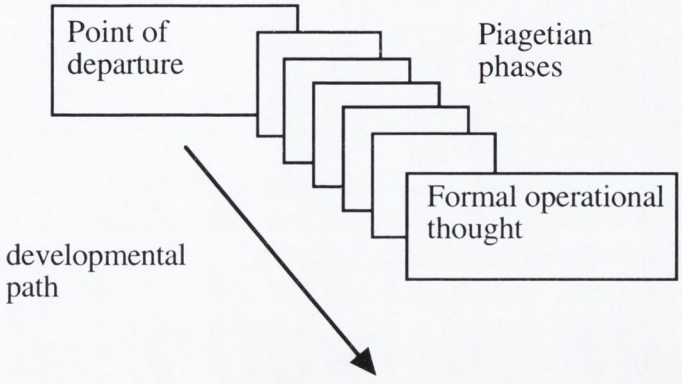

Figure 9.1 Piagetian Development

It has been found that the transition by a student from one Piagetian stage or phase of thought to another may not take place across all tasks at the same time.[4] Given a task in context, a teaching/learning cycle may exist which makes possible a transition from one phase of thinking to another. The precise character and duration of this cycle is variable and depends on contextual, interpersonal, and biological factors - a list which is not intended to be exhaustive. There may be more than one effective teaching/learning cycle, and the identification of cycles which are productive with groups of children is a matter of considerable interest to teachers. This adjustment of Piaget's view is largely that of Bruner.

[4] Hart, K. M., ed., *Children's Understanding of Mathematics: 11 - 16* (London: John Murray, 1981).

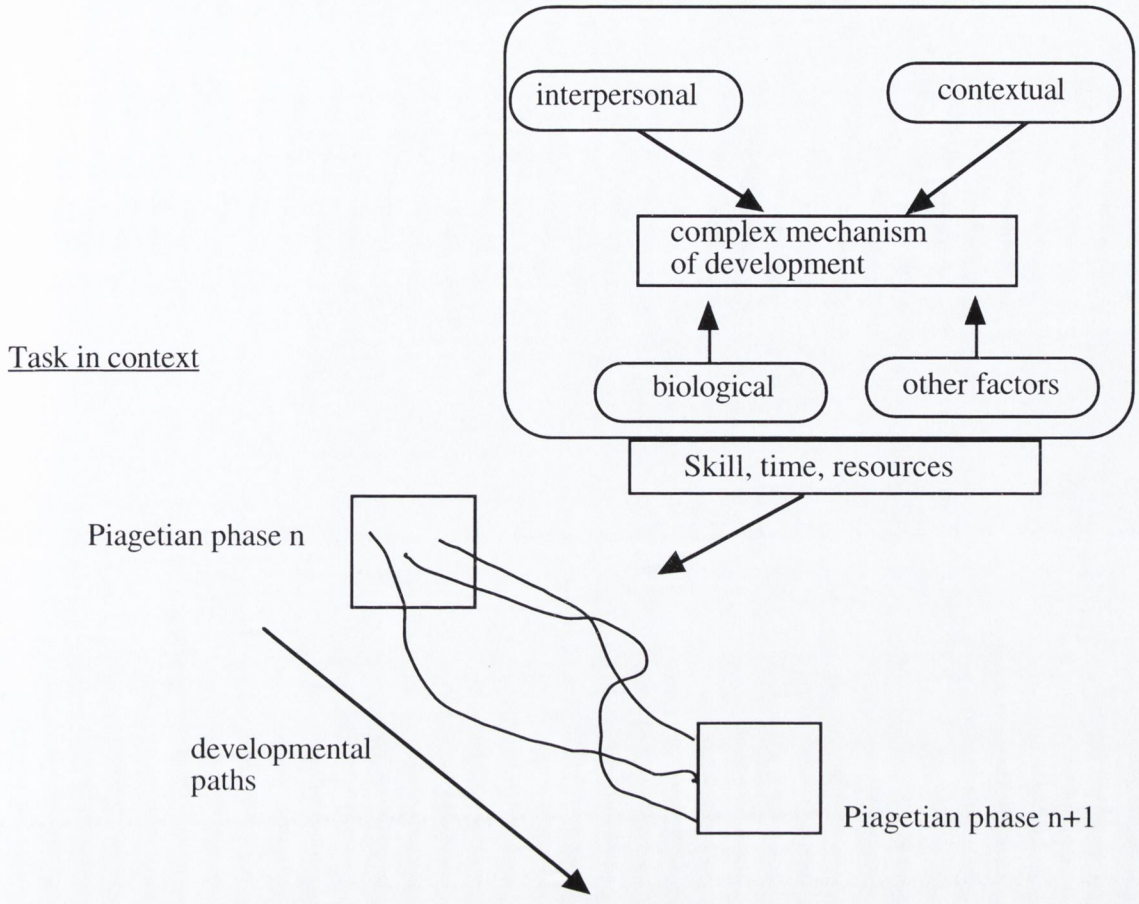

Figure 9.2 Piagetian Development Adjusted by Bruner

The tasks students engage with in school may be complex, where simple TRUE/FALSE statements are not adequate characterisations of the outcomes. Taxonomies of learning, which identify cognitive abilities component to typical task solutions, may be used to both analyse tasks, and to construct them (the "gradient of difficulty" approach), for the purposes of assessment.

Assessment of student performances has two facets: as a source of information to both teacher and student to aid further learning, and as part of a process of valuing the student's current capacities for a variety of purposes.

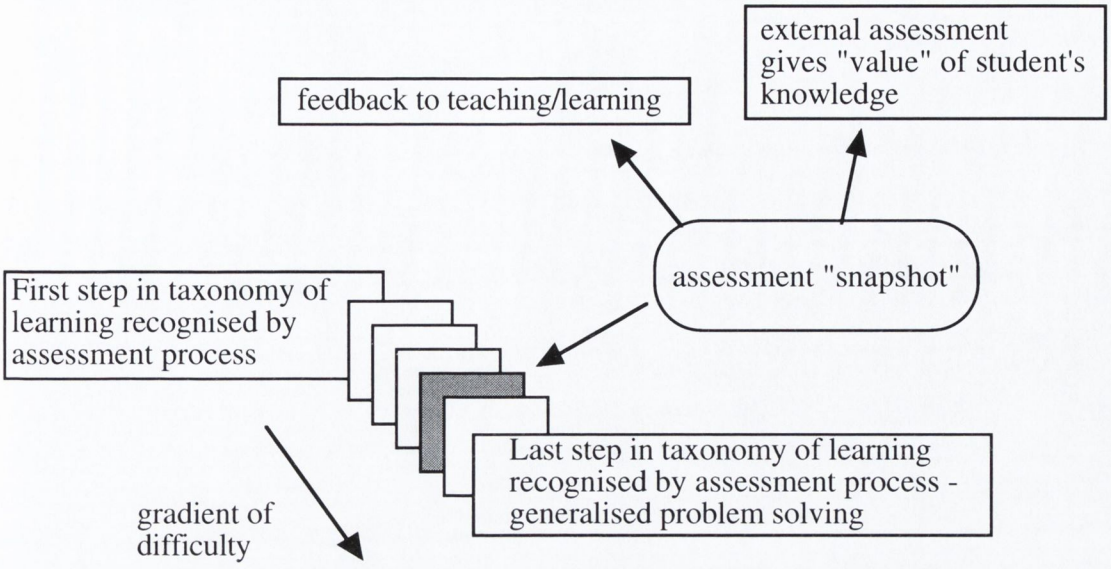

Figure 9.3 Two Aspects of Assessment

An issue of persisting educational interest is that of "transfer of learning", that is, how can students learn (or be taught) to solve new problems on the basis of their existing knowledge and creativity. Two points of view have been discussed in this work: the "higher viewpoint" approach, in which students come to see that a new problem is the "same" as other, more familiar problems, when seen from the higher, superordinate, perspective; and the "practical knowledge" approach, in which a new problem is "recognised" as being similar to more familiar problems, a recognition that may have more to do with the contexts in which problems are encountered than the existence of shared logical features.

The issues involved in the "transfer of learning" debate are very involved, and the discussion of these matters in this work has been focussed on the specific issue of how such "transfer of training" can be acquired. The proponents of the views examined, Vygotsky, and Rogoff and Lave, share a belief in the historical, situated nature of human learning. Both proponents can be seen to agree that "transfer of learning" exists, but the analyses offered for this phenomenon are quite distinct, in that the Vygotskian perspective sees a politically liberating and unproblematically superior scientific rationality as the "higher" perspective, as opposed to the rather messy, pragmatic, "everyday" activities of "persons in practice", which Rogoff and Lave identify as the reality of the situation, despite what "school stuff" is available as a model for activity.

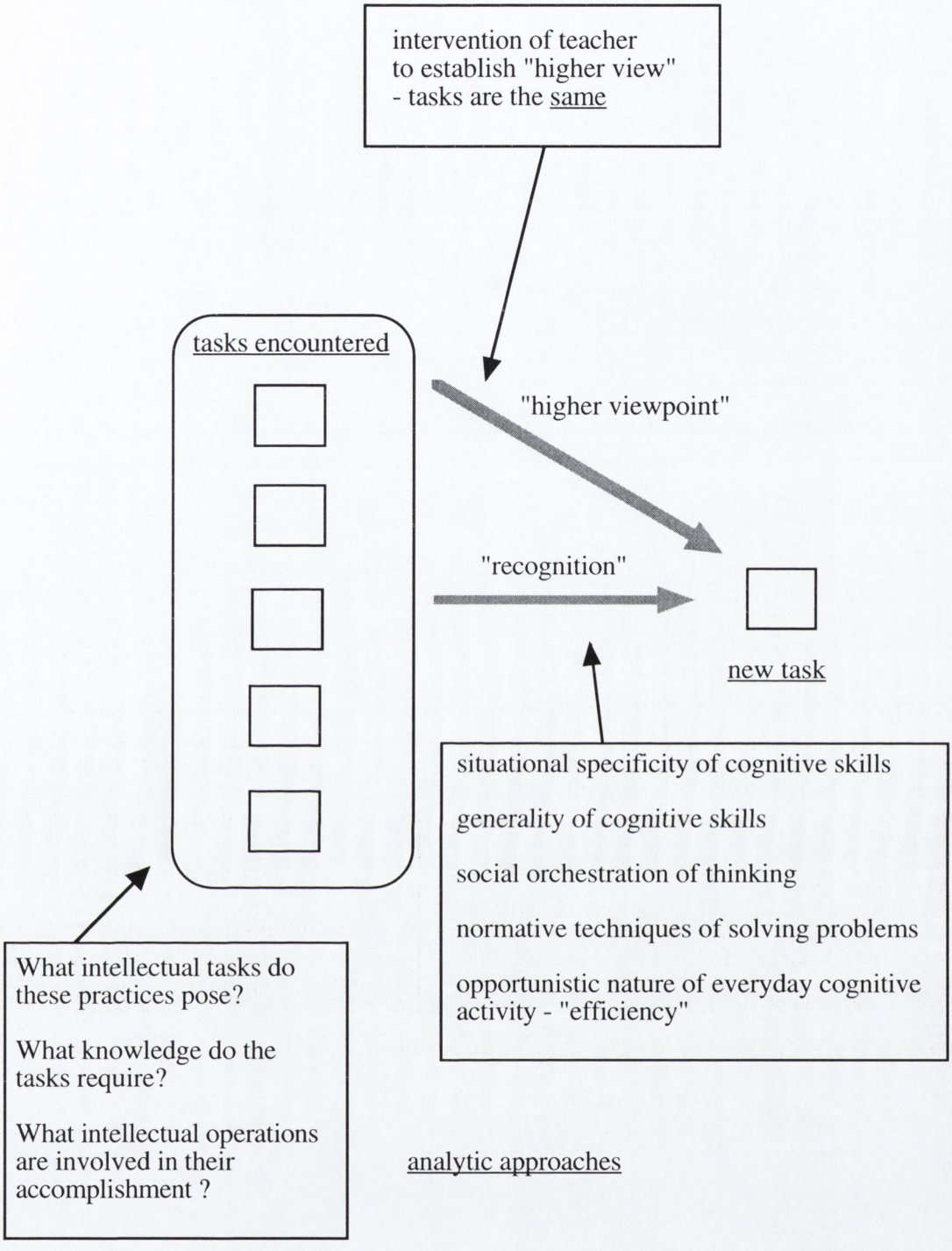

Figure 9.4 Transfer of Skill

When the issue of assessment is superimposed on these models of transfer, it is possible for the "higher" view and the "context" view to account for a successful outcome. The immediate issue here is to distinguish the outcome referred to as "transfer" from the objectives for assessment apparent in the LCA programme. The three views are shown on the diagram below.

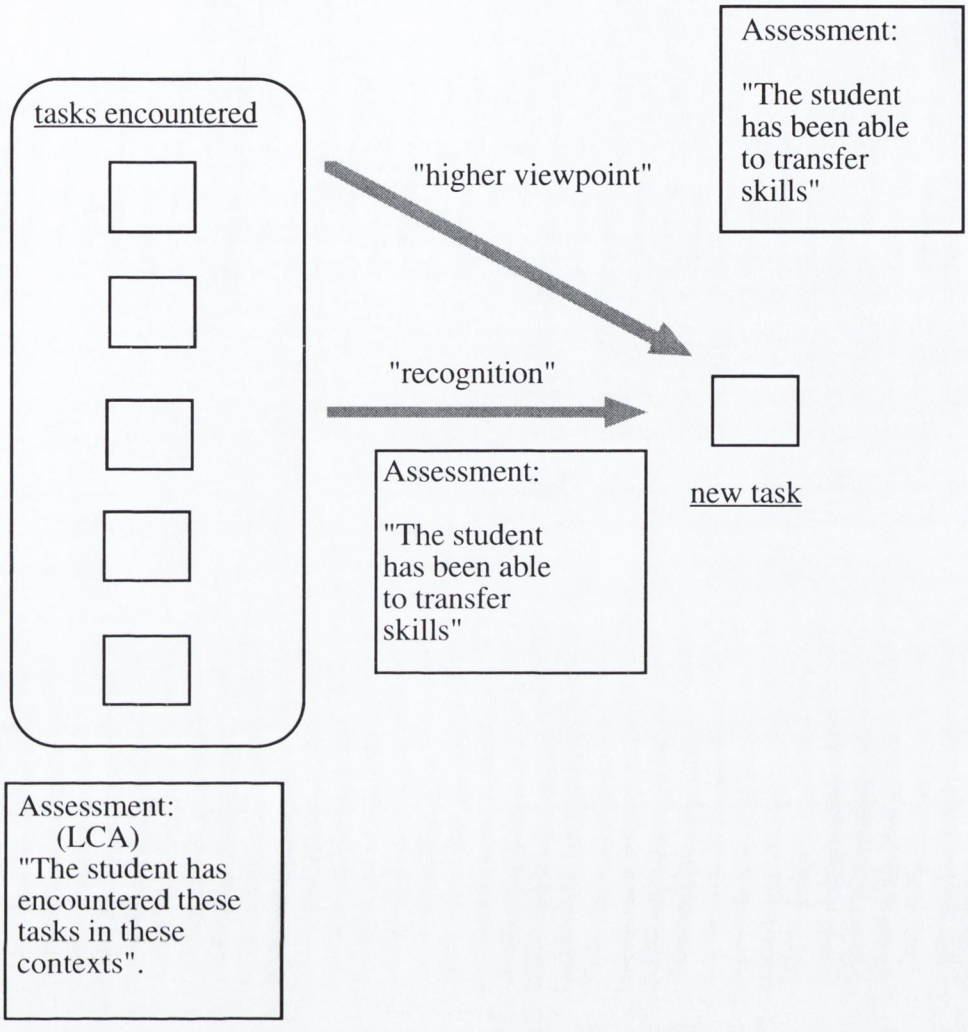

Figure 9.5 Three Views of Transfer of Skill

The LCA view is represented on the bottom left of the diagram. The issue of recognition is apparently left as an open question. It is difficult to say what learning theory lies behind this perspective. It may be that the issue of motivation is addressed by the self-explanatory nature of the match between the context and the need to acquire what is needed, *and no more*, by way of mathematical technique. However, the objective of "general transferable skills" seems as obscure as ever, unless the students' experiences of tasks in contexts are seen as additions to some sort of "vocabulary of experience", so that future encounters with other tasks in contexts become "nameable" or "thinkable" in terms of this vocabulary, as opposed to being an encounter with something utterly outside of experience and "un-nameable". Given this interpretation, there would appear to be a point to providing vocational flavour to the contexts of the tasks, related to occupations which may be open to students in their immediate geographical area. This would appear to strengthen the "reality"

of the tasks the students deal with in school, and also create the expectation that the learning outcomes may be of some use.

There appears to be a parallel (of sorts) between the preceding account of learning mathematics in the LCA and learning a foreign language (at a distance), with its textbook, video, or role-play encounters "In the Café" or "In the Metro". A statement (instrument) such as

I would like to buy a *?

has two facets. The situation (context and intention) must be such as to require the use of this "instrument", and the word (the value of the "variable" *) must be available. In the mathematised world, the "vocabulary" of experience is composed of *instruments*, because *the data are typically available in the context*, either directly, or by measurement, or much less obviously, in the qualitative features of the situation. Taken in these terms, the world to be negotiated is a very strange place: all the food in the café is labelled with names which can be read. What does one say, which instrument does one choose, if, to be productive, one must do more than simply speak the names of the data?

Where is the * ?
I would like to buy a * ?
The * is late ?

If the second of these instruments worked in the metro when a ticket was wanted, perhaps it will work here, where an apple is wanted.

The purpose of the foregoing discussion is to take no more from the parallelism than a sense of the strangeness of the mathematised world, and a feeling for the limitations to what can be achieved with a sparse vocabulary. However, the addition of a competent mentor to our scene alters affairs.

The precise character of what happens next in the interaction between mentor and learner seems to be a function of the cultural context in which it occurs. As in all societies, even in this odd world we are visiting, the relationship of child to adult is central. Bourdieu remarks

> The child imitates not "models", but other people's actions. Body *hexis* speaks directly to the motor function, in the form of a pattern of postures that is both individual and systematic, because linked to a whole system of techniques involving the body and tools, and charged with a host of social meanings and values: in all societies, children are particularly attentive to the gestures and postures which...(go) to make an accomplished adult.[5]

A feature of this interaction is that speech *concerning what is happening* need not take place. This phenomenon is one that Lave and Wenger detect in many studies of apprenticeship, and question if verbal explanation is a uniquely effective mode of instruction, somehow superior to direct demonstration.[6] Moreover, the acquisition of the desired skill may be left to the initiative of the apprentice:

> Competent practitioners will teach him if he can persuade them to, and actual training is thus in some part a function of such formally extraneous traits as the degree of his aggressiveness. A pushy punk learns more than a quiet young man. An ideology common among journeymen suggests that if an apprentice is any good, he will make you teach him; if he does not push, he probably does not have what it takes.[7]

As Lave and Wenger indicate by their emphasis on *direct demonstration*, such communication is *local*, and does not have that *generic* character detected by Gellner as necessary for communication at a distance with an anonymous technician. Moreover, such pedagogy is largely implicit, as with traditional schooling, and appears to produce a similar self-selecting phenomenon in which a hierarchy reproduces itself, this time on the basis of possession of a capital of "pushiness".

The child's imitation of the accomplished adult, the pushy apprentice harrying the journeymen for knowledge; both may be more typical events in the teaching and learning of mathematics in school than might be thought at first. However, unlike the other contexts, the world to be learned is not presented "whole", with its puzzling complexity, and the teachers are not professional mathematicians to be imitated, or distracted from their work by blundering apprentices. Yet if mathematics teachers are viewed as people who solve

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[5] P. Bourdieu, *The Logic of Practice*, p. 87.

[6] J. Lave and E. Wenger, *Situated Learning: Legitimate Peripheral Participation* (Cambridge: Cambridge University Press, 1991), p. 21.

[7] Howard S. Becker, "A School Is a Lousy Place to Learn Anything in", *American Behavioral Scientist*, 1972, 16, 96.

problems of a very special sort, the sort given in public examinations, then a notion of an accomplished person emerges. What also emerges is a distinction between knowledge which is useful and knowledge which is valued, a distinction not apparent in the other contexts.

In the case of the LCA, the Student Task may have been intended as a "whole" context, with a repertoire of activities associated with it, directed to aims that are obvious, or which may have to be explained, using instruments whose use is demonstrated by the teacher (mentor). *Precisely how the student begins activity, is sustained in activity, and assumes more responsibility for activity, are presumably questions left to that mystery, methodology.* Subsequent use of the same (or adapted) instruments in other whole tasks might then be encouraged, not by the naming of the instrument, but by the naming of the previous whole task. The latter is an appeal to a complex of intentional activity, to a story about that, not to an abstracted piece of knowledge. As Lave and Wenger put it, such stories lead to

> ...engaging, focusing, and shifting attention, bringing about coordination...on the one hand and supporting communal forms of memory and reflection, as well as signalling membership, on the other...For newcomers, then, the purpose is not to learn *from* talk ...it is to learn *to* talk....[8]

The foregoing analysis would seem to strengthen the view that the LCA might supplement general education. The term "general education" seems to refer here to knowledge and experiences, *generic* "stories" (a culture?), which the generality of the population are expected to have shared, and which help to constitute the coherence and intelligibility of society. Vocational education, in these terms, refers to specialised stories, not expected to be known to the generality of people. The changes which took place in modifying the Senior Certificate to produce the LCA, would also seem to support this view, for as the number of vocational specialisms grew, the relatively complex specialised procedures of the mathematical vocational specialism disappeared, and the formal element of assessment of mathematical knowledge diminished.

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[8] J. Lave and E. Wenger, *Situated Learning: Legitimate Peripheral Participation* , p. 109. Recall Lynch's exhortation to "develop language skills of children from diverse cultural backgrounds". See the discussion of *agentive narrative* below.

The perspective put forward by this author that, in these terms, the "stories", once created, could be integrated into further development, by consideration of the features of the "instruments" used in them (the "higher" viewpoint), seems at odds with the thinking behind the LCA. The aim of the LCA appears to be to supplement culture rather than to develop the capacity to reflect upon it.[9] However, it is possible that this author misunderstood how Student Tasks were to be *reported* by the student, and the opportunities for language development, of a mathematical character, which this presented. Alternatively, the view may have been that it was too late for these students, that they could not bear a return to such "higher" talk. Mention of further development, in this putative view, could only encourage a continuation of traditional styles of teaching, congruent to the traditional curriculum, but unwanted in the LCA.

The issue of attainment or competence, in these terms, might thus seem premature, and more an issue for vocational education and training which occurred after the LCA programme. If emphasised, it may have been thought, traditional teaching approaches might result.

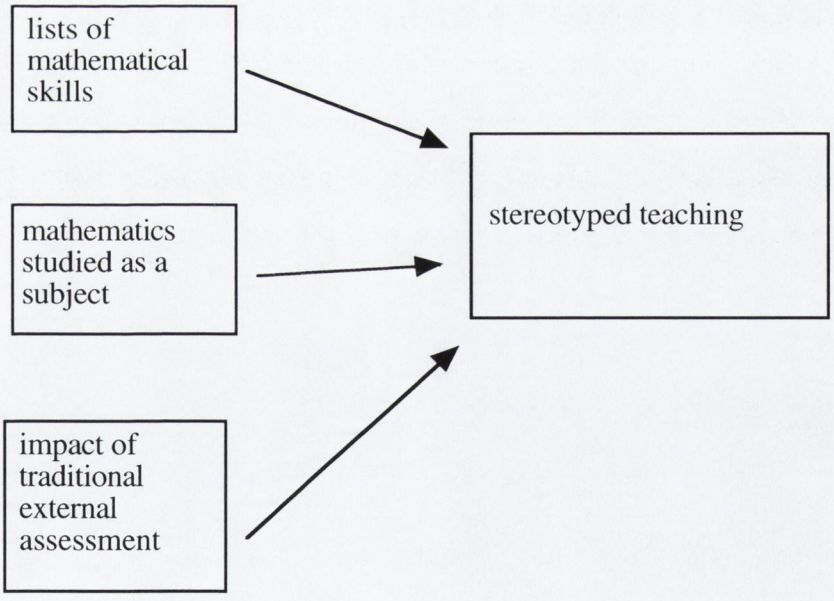

Figure 9.6 Three Sources of Stereotyped Teaching

The diagram shows three elements which may have been seen as contributing to a style of teaching unwanted in the LCA. Course design and presentation may have been motivated

[9] See the conclusion to this work for a further discussion.

by a wish to remove or minimise the impact of these elements.

The use of Mathematical Applications would thus seem to address three issues: the encouragement of a break with traditional teaching style, as discussed; the promotion of the Student Task as the integrating mechanism for the entire programme, and the provision of a rationale for the mathematical material to be studied.

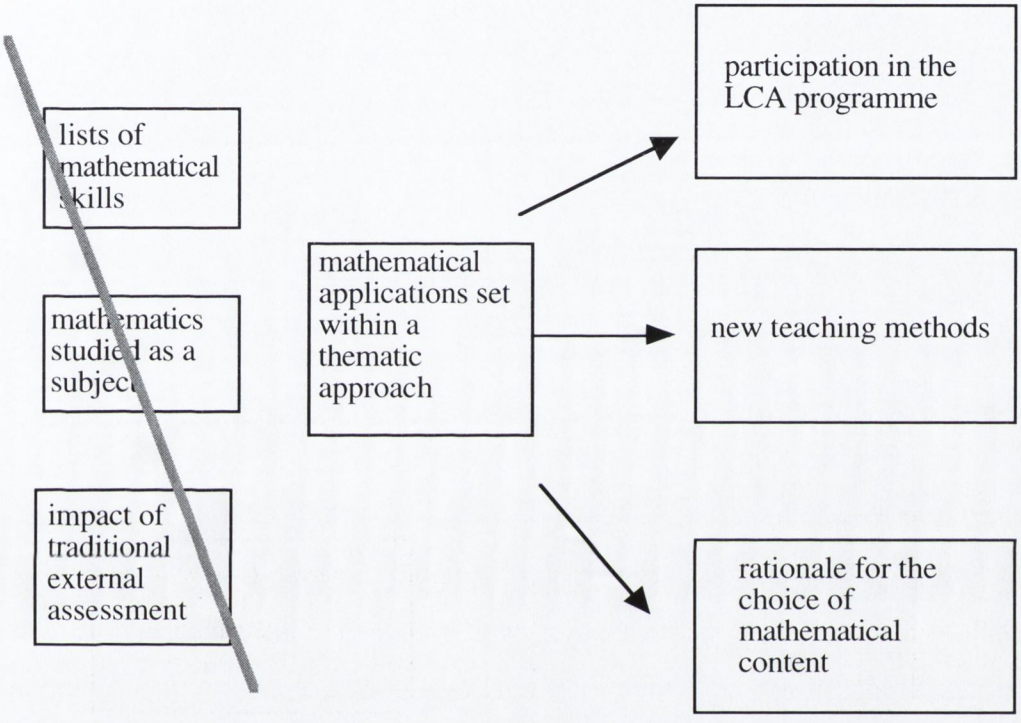

Figure 9.7 Benefits of a Thematic Approach

The issue of methodology remains as unclear as ever. While it seems that new approaches were desired, the matter seems to have been addressed by the design of a programme in which every student could succeed. Thus it would appear that the demands of the course could not be said to be too much for a student, once the student came to school at all. The novice teacher would have to cope, and in coping, learn; in the interim, the student might have to learn despite the teacher.

PART IV - AN EPISODE OF CURRICULUM DEVELOPMENT

10 WRITING THE LCA SYLLABUS

10.1 Introduction

Work began on 15th. December, 1994 and continued over a series of meetings until May 1995. There was some doubt as to when the initial, 'developmental' phase of the LCA was to begin, though a target date of September 1995 was a consistent feature of LCA documentation.[1] Industrial action by the teacher unions in pursuit of a pay claim led to a suspension of all teacher participation in curricular bodies for a period. A ministerial decision that the developmental phase would begin in schools in September of 1995 led to a sense of increased urgency about the work.

10.2 Teachers' Meetings

A group of teachers was invited by the NCCA to participate in a development group for mathematics in the LCA. These teachers all had experience of curriculum development of mathematics courses designed for students who had experienced difficulty with those of a traditional, academic type during junior cycle, if not earlier. That is, the group of teachers had developed courses within the framework of VPT1, Senior Certificate, or, as with this author, Foundation level at Leaving Certificate. A Development Officer provided the link with the Executive of the NCCA and the Steering Committee of the LCA.

One group of teachers attended a one day conference on 15th. December 1994 in Dublin. Another group met in Limerick. The initial purpose of the conferences was to familiarise those present with the philosophy and structure of the LCA, and the first presentation in each conference followed the lines of that given at the CSAI conference of October, 1994. The second issue addressed was the opportunity such a gathering provided to pool common experience of teaching programmes such as Senior Certificate, VPT1, and Foundation Mathematics (in both junior and senior cycles). In particular, the issue of what type of mathematical content was appropriate would be addressed.

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[1] NCCA, *Leaving Certificate Applied Programme: Rationale, Philosophy and Operational Plan* (Dublin, NCCA,1994), pp. 9 - 11.

An immediate issue in this work is to understand what the members of the development group for the Mathematical Applications section of the LCA thought they were doing. The development group of teachers were all practising teachers of mathematics (and in one case, Science).

Here, then, is a description of one of the meetings of teachers which were held as part of the preparations for the development of the Mathematics Applications section of the LCA, and whose deliberations were assembled by the Development Officer in the document given in Appendix B as "The mathematical content of the LCA course as proposed by meetings in Dublin and Limerick of teachers involved in the vocational specialisms, organised under a variety of headings, and distributed over the two years of the programme":

> The working atmosphere at the teachers' conference in Dublin was one of interest and curiosity.[2] After a presentation on the philosophy and structure of the LCA, discussion turned to what should be taught within the Mathematics Applications section. Issues of methodology were not addressed at length, but in passing, and seemed to function as a reminder or reassurance that all present were "of the same mind".[3] Many comments of this type were laconic or humorous, but not malicious. A constant theme was the continual necessity to build up and maintain the confidence of the students in their capacity to learn and be successful in Mathematics.[4]
>
> The business of the conference was conducted very briskly in "brainstorming" fashion, with colleagues suggesting topics and content with which they had experienced success with "this sort of student". The language used involved a professional "shorthand" when referring to mathematical material. The extent of topics was a matter of particular interest, with suggestions being queried with "How much? Up to where? Would that include ....?" When agreement was reached, the topic or content, limited as agreed, was noted. Many elements of a mathematical "life-skills" nature were suggested, ranging from telling the time in a variety of formats, to estimating the mass ("weight") and dimensions of objects and substances ("a pound of sausages", "a bullock").[5] Some contributions were based on experience of the Senior Certificate mode of organising student work around themes ("planning the school trip"), or the weaknesses and gaps evident in the knowledge of the students, though only the mathematical content of the projects was recorded.[6] A recurring theme towards the end of the conference was the concern that external assessment by the Department of Education at the end of the LCA programme would match what the students had been taught.[7]

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[2] Personal notes of 15th December, 1994.

[3] That is to say, it became clear that the teachers present believed that the students for whom the LCA was intended was a cohort with whose learning problems they were very familiar. The teachers present were nominated by their schools on the basis of their experience and success with such students.

[4] Personal communication from the Development Officer.

[5] Ibid.

[6] Personal communication from the Development Officer.

[7] Personal communication from the Development Officer.

The inclusion here of this snapshot of behaviour serves a variety of functions. In immediate terms, it is intended to show that whatever the extent of knowledge of methodological *literature* possessed by the teachers who took part in these meetings, or of this author's two colleagues in the development group, *discussions were mediated and framed in the language of practice*. This author did not offer as a contribution to discussion the theories of Vygotsky, Lave, or Bruner - *it was not that sort of meeting.*

10.3 First Drafts of the Mathematical Content of the LCA Course

The development group consisted of three teachers, one of whom had been appointed as Development Officer by the NCCA. The group met first on the 25 - 26th. January 1995. The Development Officer presented a paper which summarised the outcome of the conferences in Limerick and Dublin. Other input came from meetings in Dublin and Limerick with teachers involved in the vocational specialisms[8] . The paper, given here as Appendix B, organised the proposed mathematical content of the course under a variety of headings, distributed over the two years of the programme.[9]

The Dublin meeting of 25th. January, 1995 was used to reorganise the material given in Appendix B. The headings were kept, but content was redistributed; individual items were expanded into individual behaviours capable of assessment and given reference codes so that items might be easily manipulated in a database. This is given here in Appendix C. The fact that the LCA documentation had to be ready by May so that work in school could begin in September demanded that the group should concentrate on Year One of the programme.

The meeting of 26th. January, 1995 considered the previous work and distributed its content over two half-year modules, as required by the LCA structure. In doing this, the group considered the issues of the difficulty of the material, its logical sequence, and the need for variety in the material. This version is shown in Appendix D, where the sequence of headings is given.

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[8] Personal communication from the Development Officer.

[9] Appendix B:"The mathematical content of the LCA course as proposed by meetings in Dublin and Limerick of teachers involved in the vocational specialisms, organised under a variety of headings, and distributed over the two years of the programme".

The development group then addressed the issue of how the mathematical material, thus organised, might be arranged for presentation to the students participating in the LCA, given the need for thematic approaches and opportunities for curriculum integration. As a tentative step, each coded behaviour was assigned a theme under the headings of *Maths for Work*, *Maths for Leisure*, and *Maths for Home*. Each behaviour might thus be assigned to one or two or all three of these headings. Thus item 10208 *Convert a proper fraction to a decimal, correct to two decimal places* was assigned to *Maths for Work*, while item 10206 *Write an answer to a money calculation correct to the nearest penny* was assigned to all three headings.

The criterion used to distribute material to the headings was that of stating a list of appropriate contexts in which the behaviour might be expected to occur. The degree of appropriateness of the material came from experience of the type of student who might follow the LCA, the thematic approaches used in the Senior Certificate and VPT1 courses, as well as an understanding of the range of vocational options which might be available to the students.

10.4 A Response from the Steering Committee

The Development Officer presented current work to representatives of the NCCA and the LCA Steering Committee. A written reply came on the 8th. February, 1995. The following points were made:

- ◇ It was best not to present LCA Mathematical Applications as a list of basic topics. Such a presentation would appear to constitute a sub-Foundation Level Leaving Certificate Course. This would damage the image of the LCA, have a negative effect on student motivation and on public relations generally, including that of employers.
- ◇ The LCA was to be a radically new departure in curriculum design and must be seen as such in its presentation as well as its implementation.
- ◇ Given the foregoing, there were perceived to be problems with the current work of the group. These were due, in part at least, to the concerns which had been expressed regarding the relationship of the Mathematics Applications to the Vocational Specialisms.
- ◇ The recommended approach was to utilise the Student Task for Vocational Education as the means to address the Vocational Specialisms application.

- ◇ Mathematical material might be revisited, as in a spiral, as the students moved from theme to theme in a natural, organic manner. This approach would also facilitate closer integration with Vocational Preparation and Guidance and with General Education, providing motivational investigations in each of these elements.
- ◇ The adoption of a thematic approach would be consistent with the overall curricular approach inherent to the LCA and would avoid invidious comparisons with Leaving Certificate Foundation Level Mathematics.
- ◇ The direct integration of Mathematical Applications with Vocational Specialism(s) might become a special focus of a module in Year 2 Session 2.
- ◇ The adoption of a thematic approach would avoid allegations of arbitrariness about what is included, where and why, in the proposed current model.

In conclusion, the group was requested to provide a presentation of topics in modular form, within a thematic framework, and a document named *Overview of Mathematical Applications in the LCA* which would describe the rationale behind the modules, their sequencing, their relationship with each other and with the rest of the LCA.

10.5 A Reply to the Steering Committee

The response of the NCCA/Steering Committee representatives indicated that there was a difference of understanding between the group and the executive about the nature of the work the group had prepared.

The group discussed the executive response and produced the document given in Appendix E. In this, the coded behaviours were regrouped from a sequence of categories determined by logic and degree of difficulty. The new categories were six *themes* with the following working titles: *Leisure and Social Maths 1 and 2*; *Travel and Tourism Maths 1 and 2; Consumer Maths 1 and 2*; *Maths for Income and Wages 1 and 2; Communication Maths 1 and 2*; and *Maths for Home* (to include *DIY/Agriculture/Horticulture*)*1 and 2.*

Each theme was broken into two parts to correspond with the first and second sessions of Year One of the LCA programme. In addition, such a division was thought to provide built-in opportunities for revision of material prior to resumption of the second part of any given theme. In redistributing coded behaviours over the themes the group introduced repetitions of the coded behaviours, so that each coded behaviour was now associated with a theme (or context), where required.

The group then sought to break the *themes* into smaller named components, possibly forming the material for short booklets[10]. In some cases this involved a redistribution of material, and, as before, repetitions of coded behaviours were permitted. An additional consideration here was that the course of study would be broken up into units requiring a relatively short teaching and study time, and offering frequent opportunities for informal assessment.

The issue of orientating Mathematical Applications towards Student Tasks and Vocational Specialisms was addressed by the group. The format used was suggested by that of the *Draft Guidelines for Teachers* prepared for the Leaving Certificate Mathematics Foundation Level course[11] . In this document the Mathematical content of the course was listed in one column, with a second column offering notes, and a third column offering rationale[12] . The group decided to add a *Notes* column to the format of the reorganised document. The *Notes* column could be used to indicate suggested contexts of application, possible teaching approaches, and issues of rationale, for each of the coded behaviours. Further feedback from the executive representatives expressed concern that there was too much material to be covered in Year One. The existing material was to be spread over three half-year sessions. The group did so by forming three *modules* called *Maths for Everyday Life, Maths for Leisure and Travel*, and *Maths for the Consumer.*

10.6 Further Comments from the Steering Committee and the Development Group's Replies

Feedback from the executive representatives approved of these developments but contained a request that the coding numbers for each behaviour should not appear on the course documentation. The group's response to this was to name each block of behaviours associated with each small component ("booklet") of a theme, using the terms Block A, Block B, etc. The point of this was to address the issue of guiding assessment, especially

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[10] The titles are given in Appendix G.

[11] An Roinn Oideachais/NCCA, *Leaving Certificate Mathematics (Foundation Level) Draft Guidelines for Teachers*(Dublin: NCCA, n.d.).

[12] The first two columns were a direct copy of the presentation in the official syllabus for this course: An Roinn Oideachais, *The Leaving Certificate - Mathematics Syllabus (Foundation Level)*, (Dublin: The Stationery Office, n. d.), pp. 7 - 13.

any element of formal external assessment. In addition, the "booklet" structure did not lend itself to the issue of the logical sequence of the material. Some "booklets" could be taken in any order, others appeared to demand a logical sequence. Using the "Block A " notation allowed the possibility of indicating which blocks of behaviours were required to be taught/studied before starting a given "booklet". The document given as Appendix F gives the total outcome of these revisions. The document given in Appendix G shows the theme component names, the assessment guide, and prior requirements.

10.7 Draft Assessment Items

The remaining immediate issue to be addressed by the group was that of draft assessment materials. However, worsening industrial relations between the Government and the teacher unions threatened the possibility that the LCA might not start in September of 1995 as planned. In consequence, it was with a sense of urgency that the group addressed the issue of assessment. Other developments further complicated this work.

The material set out in Appendices F and G gives the contexts of application that would be expected to arise: Home Finance, Income and Wages etc. This was not intended to be a prescriptive list, as the possibility of translating course material already developed by individual teachers for Senior Certificate, VPT1, Ordinary Alternative, and other programmes, was assumed by the group from the very beginning. *That is, the group expected that in the initial phase of the LCA programme, the participating schools would have had some experience of Senior Certificate or VPT1 courses.* While not every teacher in these schools would have had experience of these programmes, *there would have been a pool of expertise available.* Furthermore, from briefings and from documentation, there was a clear intention to have a coordinator of the LCA appointed in each participating school. However, the group received word in April of 1995 that some schools participating in the initial phase of the LCA might not have participated previously in Senior Certificate or VPT1 programmes. A suggestion was made that a set of course material booklets might be prepared, particularly aimed at colleagues in such schools. The group found that it was not in a position to do this, given the resources available for secondment.

The final document prepared by the group is that, part of which is shown in Appendix H,

showing draft items for Blocks A, B, and D. The Development Officer was left with the task of producing draft assessments for the remaining blocks and passing these on to the representatives of the LCA Steering Committee.

The system behind the draft assessment was as follows: for each coded behaviour, two test items were produced, one based in the context of application, one framed without a context. The behaviours are now no longer coded, but given simple place numbers. Thus the first behaviour in Block A, 10101, is now simply A1. The test item set in context is item I, the other, outside of context, is item II.

The draft assessment criterion for each Block was that each student must correctly answer at least one half of the items. Thus, Block A contain 10 coded behaviours, each behaviour assessed by two items, one in context, one not in context, giving a total of 20 items - the criterion score for Block A is thus one half of 20, that is 10.

Module 1 - *Maths for Living* - consists of 6 Blocks, A to F; if a student met the criterion score within each block, then the student would receive 1 Credit. The four Modules of the Mathematical Applications section of the LCA programme would thus have the capacity to contribute 4 Credits. In the context of the entire programme, 40 Credits were allocated to the completion of all modules.

The final communication received on the entire project was a letter from the Development Officer of 18th. May, 1995 This indicated that due to industrial action all work was suspended, and that the reaction to the draft assessment procedure by the representatives of the Steering Committee was that it appeared to be too long, and that four or five assessment criteria might be sufficient.

The industrial dispute eventually ended, and the LCA programme was launched for implementation in September, 1995. The group took no further part in the development of the LCA. Appendix I was distributed to schools in November of 1995 as *Leaving Certificate Applied, Mathematical Applications*[13]. A comparison between the documents shown in Appendices F and G, and that in Appendix I - *Draft Modules* is given as

[13]NCCA/An Roinn Oideachais, *Leaving Certificate Applied, Mathematical Applications* (Dublin: NCCA/An Roinn Oideachais, n. d.).

Appendix J. The *Purpose* and *Aims* statements for each *Module* are given as Appendix K.

11 DISTINGUISHING THE FRAMES OF INTERPRETATION

11.1 Introduction

A puzzle is apparent from Chapter Ten of this work: What were the origins of the differences in understanding between the development group for Mathematical Applications and the representatives of the Steering Committee? Was it simply a product of poor communications? Of overstretched resources? Or was the misunderstanding of a more fundamental nature?

The analysis of misunderstanding is the stuff of anthropology:

> Analysis, then, is sorting out the structures of signification....- and determining their social ground and import.....such sorting would begin with distinguishing the...unlike frames of interpretation ingredient to the situation....and would then move on to show how (and why) at that time, in that place, their copresence produced a situation in which systematic misunderstanding... (produced a conflict).[1]

What follows, then, is an attempt to distinguish two frames of interpretation: that of the development group and that of the Steering Committee representatives.

11.2 The Group

The document given in Appendix B as "The mathematical content of the LCA course as proposed by meetings in Dublin and Limerick of teachers involved in the vocational specialisms, organised under a variety of headings, and distributed over the two years of the programme" was the first working document the group addressed.[2] This paper, prepared by the Development Officer, summarised the outcomes of conferences in Limerick and Dublin addressing, *inter alia*, what type of mathematical content was appropriate for the LCA. The teachers who contributed had a great deal of experience of teaching programmes such as Senior Certificate, VPT1, Ordinary Alternative, and Foundation Mathematics (in both junior and senior cycles). There was also input from teachers involved in developing the vocational specialisms, as to what would be required.

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[1] Clifford Geertz, *The Interpretation of Cultures*, p. 9.

The Development Officer subsequently organised the outcomes of these meetings under the headings shown in Appendix B. The material was distributed over the two years of the programme, addressing such issues as *logical order, degree of difficulty, and the need for variety* - a persisting classifying scheme of the development group.[3]

The subsequent meetings of the group and the documents produced are given in Chapter Ten and in the appendices to this work. The document described here as the communication of 15th. October, 1994 was given to the other members of the group only after Appendix B had been prepared. While the point of view expressed in it shaped the contributions of this author to the group's work, it was not subsequently discussed in detail. The development group, however, accepted (or tolerated) the principle of assessment which distinguished between items-in-context and items-out-of-context. In addition, following the working sessions of the group, this author prepared the documents given in Appendices B to G, and the beginning of the document given in Appendix H using a database and word processor.

It is asserted here that the group set to work on a body of mathematical material, the extent of which was well understood by the members of the group; with a certain type of student in mind; with the intention of producing *a clear communication to experienced teachers of what might need to be taught in the course of the Tasks, and of what was to be examined by external assessment.*[4] The work shown in Appendix C, "The mathematical content of the LCA course as reorganised by the Development Group at a meeting in Dublin, 25th. January, 1995", specifically addresses these two issues.

The communication from the Steering Committee representatives of 8th. February, 1995 proved to be a surprise for the group. For the purposes of this work, the Assistant Chief Executive of the National Council for Curriculum and Assessment (NCCA), gave an interview to this author on Monday, 7th. October, 1996, to set down the viewpoint behind

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[3] Ibid. An hypothesis is offered for further investigation: this classifying schema is characteristic of teachers of mathematics. If not found to be characteristic of all such teachers, what are the other traits which distinguishes the sub-group which does share this schema?

[4] The unstated nature of many of these assumptions is characteristic of *practice*. See P. Bourdieu, *Outline of a Theory of Practice* (Cambridge: Cambridge University Press, 1977). This is discussed below.

the communication from the Steering Committee representatives of 8th. February, 1995.[5] The Assistant Chief Executive was one of the authors of that communication.

11.3 Interview with the Assistant Chief Executive of the NCCA, 7th October, 1996[6]

The summary of the letter of 8th. February, 1995 above is reproduced here for reference to what follows. The points have been numbered.

- ◇ 1 It was best not to present LCA Mathematical Applications as a list of basic topics. Such a presentation would appear to constitute a sub-Foundation Level Leaving Certificate Course. This would damage the image of the LCA, have a negative effect on student motivation and on public relations generally, including that of employers.

- ◇ 2 The LCA was to be a radically new departure in curriculum design and must be seen as such in its presentation as well as its implementation.

- ◇ 3 Given the foregoing, there were perceived to be problems with the current work of the group. These were due, in part at least, to the concerns which had been expressed regarding the relationship of the Mathematics Applications to the Vocational Specialisms.

- ◇ 4 The recommended approach was to utilise the Student Task for Vocational Education as the means to address the Vocational Specialisms application.

- ◇ 5 Mathematical material might be revisited, as in a spiral, as the students moved from theme to theme in a natural, organic manner. This approach would also facilitate closer integration with Vocational Preparation and Guidance and with General Education, providing motivational investigations in each of these elements.

- ◇ 6 The adoption of a thematic approach would be consistent with the overall curricular approach inherent to the LCA and would avoid invidious comparisons with Leaving Certificate Foundation Level Mathematics.

- ◇ 7 The direct integration of Mathematical Applications with Vocational Specialism(s) might become a special focus of a module in Year 2 Session 2.

- ◇ 8 The adoption of a thematic approach would avoid allegations of arbitrariness about what is included, where and why, in the proposed current model.

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[5] The interview took place following a written request to the Chief Executive of the NCCA. The Assistant Chief Executive was given a copy of the summary of the interview and requested some changes. These changes were made and approved, and the resulting text is given below.

[6] Personal notes of 7/10/96

The Assistant Chief Executive was asked to describe the reaction of the Steering Committee representatives to the draft materials (given here in Appendix C). His reply is summarised with reference to the numbered points above.

Regarding points 1, 2, 6, and 8:

A. The draft materials appeared not to be in sympathy with or match the overall programme.

B. The system of coding was not understood.

C. The presentation of the material as discrete mathematical behaviours gave rise to fears that the course would be taught as a series of abstract exercises, rather than a set of mathematical applications set within a thematic approach.

D. A thematic approach would have indicated a participation in the overall themes of the programme.

E. The appearance of the material as a set of exercises raised questions such as: Why *these* skills and not others? (See point 8 above). Why *this* range of digits? This form of presentation seemed to suggest the students were not capable of more than the tightly specified skills listed. (See point 1 above).

F. From the perspective of the Steering Committee representatives, the issue of context was *primary*. Given a particular context (preferably a vocational one), what constituted a reasonable inventory of mathematical procedures embedded in the context? What would a person doing *this* need to know?

The Assistant Chief Executive was asked if he believed these differences were simple misunderstandings or related to more fundamental matters. In his reply, he indicated there were jarring viewpoints. Moreover, he felt that he had reached conversational agreement with the Development Officer about these matters and was consequently surprised at the format of the document given here in Appendix C.[7] This author suggested that he (the author) would have broadly agreed as well, had he been asked, yet still would have written the document (Appendix C) in that form.

The Assistant Chief Executive was asked what he thought the Development Group were supposed to have been doing. In his reply, he indicated that the LCA was to be a course of published modules which would be distributed to schools. Any module documents should self-evidently sit with the other LCA documents, and be presented to teachers as a syllabus.

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[7] There is no suggestion here by the Assistant Chief Executive or this author that the Development Officer acted in any inappropriate way. The remark following underlines this point.

The methodology was implicit in commitment to the programme, its aims and philosophy. He agreed that the expectation was that in most participating schools there would be teachers with experience of such methodology, but that there were schools participating who had no previous experience of such programmes as LCA, and that the in-service programme would attempt to address this.

Regarding point 2, the Assistant Chief Executive noted the comparison with English, which was presented as a course of study called *English and Communications*. What was required was an equivalent translation for Mathematics. Mathematical Applications was the name that had been agreed. The form of presentation used in the document (Appendix C) was not satisfactory in this regard, and had implications for the validation of the course, as the mathematical content only was recorded, not the contexts of application, which, as he had said, were primary.

Points 3 and 4 concerned the relationship of the Mathematics Applications to the Vocational Specialisms. The Assistant Chief Executive indicated that it had been originally intended to have a fourth module in Year Two dedicated to a Mathematics/Vocational Specialism (e.g. Laboratory Maths) as with the original Senior Certificate. This changed in two stages due to a variety of pressures:

> *The volume of material produced had pushed the Mathematics/Vocational Specialism from term 1 of Year 2 into term 2 of Year 2.
>
> *Students were now to take *two* vocational specialisms in Year 2 with a view to bettering the employment prospects of students.
>
> *This latter point emphasised that the LCA was a programme of *pre-vocational* education rather than vocational education (as with previous educational practice: Commercial Arithmetic etc.).
>
> *Given that there were 20 vocational specialisms, this would have required 20 different Mathematics/Vocational Specialisms. This was not feasible within existing resources and the pressure of time.
> *The student Task would now be the means to address vocational education.

A general discussion followed. Points made by the Assistant Chief Executive are summarised as follows:

G. It was intended that English/Communications, Mathematics Applications, and Information Technology were to inform and support all areas of the programme. The programme (set out here in Appendix C) seemed to be bits and pieces, an arbitrary list of skills, attempting to be a Mathematics programme. It fell between two stools: it was not a programme of Mathematics, it was not thematically based.

H. The Assistant Chief Executive was asked if there were concerns about external assessment. He replied that a major concern was to contain the "backwash effect" of external assessment upon the programme.

I. The Assistant Chief Executive was asked about the issue of "transfer of training" and the placing of Mathematics Applications within Vocational Education and not General Education. His reply is summarised as follows: *Mathematics had always been a problem in vocational/pre-vocational education. Students with histories of low attainment were caught in a vicious circle. The intention was that by placing Mathematics in contexts, driven by the vocational specialisms, issues of motivation and rationale for study would be addressed. For example, to be a motor mechanic, *this* Mathematics was needed.

*Courses emerged as course elements within time blocking over the two years of the programme. This was a pressure in placing Mathematics Applications within Vocational Education.

*Employers had indicated that they did not want pre-trained workers.What was required were basic skills in literacy and numeracy, and general transferable skills.

11.4 The work of the development group reviewed

The discussion has dealt with points of view and the differences which emerged following the production of the document (Appendix C) and the response from the Steering Committee representatives. In the light of this, the work of the Development Group subsequent to the letter of 8th. February, 1995 from the Steering Committee representatives may now be reviewed.

As set out above, the group had difficulty in addressing the novel issue of how students, parents, and employers might view its work. However, the documents given here in Appendices E and F were produced as an immediate response to the comments of the Steering Committee representatives. A significant outcome is that "themes" (of a sort) now act as the organising concepts for the material, rather than the familiar headings of a mathematics syllabus. In particular, this produces the phenomenon of repetitions of individual skills. Thus, 10201: "Perform accurately the operations +,-, x, ÷ on natural

numbers ≤ 6 digits " occurs under *Leisure and Social Maths Part 1*, *Travel and Tourism Maths 1*, and so on. This would appear to have produced a desired effect: the students encountered the necessity for mathematical skills as the need arose in context. In addition, or perhaps, as evidence of making the unorthodox orthodox, the group also felt that the mention of repetitions would emphasise to teachers the necessity for revision. These themes were then broken up into smaller components, possibly forming the basis for the future production of booklets. Notes were added to indicate appropriate contexts in which the skill might be encountered.

The intended mode of use by teachers might be as follows: a group of teachers from a variety of disciplines in a school would discuss a Student Task; the Mathematics Applications teacher would check to see if the Task would fall under one or other of the mathematical module headings;[8] and then check to see which of the component headings, for example, "Using Time" would be required. In this way the component skills listed would make an appearance in the Student Task and teaching could be planned to this end.[9] The document below (also given in Appendix G) shows the names of the Module components. *Module 1* is *Maths for Everyday Life*, *Module 2* is *Maths for Leisure and Travel*, *Module 3* is *Maths for the Consumer*.

[8] "Maths for Everyday Life" for example, would appear to give a good deal of scope.

[9]The intention of the group was that most, if not all, of this material would be mastered. The material was assembled on the basis that it had been taught successfully to "such students".

	Theme Components	Assessment Guide	Requirements
Module 1	Bills and Everyday Commercial Transactions.	A	-
	Using Time.	B	-
	Design Maths.	C	-
	Communicating Maths.	D	-
	Income and Wages.	E	A and B
Module 2	Taking Chances!	F	-
	On the Road!	G	A and B
	Hot and Cold Maths	H	A and D
Module 3	Business Maths.	I	A and B
	Maths for Measurement.	J	C
	Consumer Information Maths.	K	D
	Fair Shares!	L	A
	Budgeting, Costing and Planning.	M	A, B, D, F and
	Triangle Maths.	N	A and C
	Maths in Space.	O	A and C
	Home Finance.	P	A and C

Figure 11.1 The theme component names
of the mathematical content of the LCA course,
the assessment guide, and the prior requirements.

The titles of the module components are of interest. The committee has addressed the Steering Committee's view of student motivation, albeit with a rather forced tone of brisk cheerfulness. "Hot and Cold Maths" and "Maths in Space" are good examples of this *genre*.

The coding system disappeared, but a larger system of lettered assessment guides took its place. In fact, the original coding scheme persisted into the document given in Appendix F. In the document given here as Appendix H (the sample assessment) the individual behaviours reappear, though somewhat disguised; item A1 may be the same as F3. Further, the *logical* dependence of one skill upon another, but not the *practical* dependence upon the context of application, persists in a set of requirements, which refer to the prior completion of lettered assessment blocks.

The set of draft assessment items, given here in Appendix H, was the last document the group produced. Two features are of interest: the context-embedded/context-free items, and the criterion score. The former may be seen as evidence of further fixation with external examination, or as an attempt to point the students towards a generalised notion of the mathematical skill just used in context (or rather, a written description of context). *The criterion score is evidence of the unproblematic conviction of the group that students should be able to master most of the skills contained in the entire programme.* As the criterion score was set at one half of all items, the hypothetical student who could not recognise any items out of context, having been cued by in-context items, would need to correctly answer *all* of the written in-context items.[10]

Appendix I gives the published *Draft Modules*. As discussed earlier, the assessment guide and the requirements guide both disappeared. A final indication from the representatives of the Steering Committee pointed to a shorter assessment procedure, with four or five assessment criteria *per module* being seen as sufficient. Sufficient to indicate what? Given the expectation that "such students" would be capable of mastering most of the mathematical material, the proposed criterion seemed to miss an opportunity to mark real gains in knowledge by the students, or perhaps, that the Steering Committee had entirely different objectives in mind. Further, it was not clear whether these criteria would address the issue of mathematical material being embedded in context or being context-free.

Appendix J summarises the differences between the final documents produced by the Development Group (given in Appendices G and H) and the Draft Modules approved, presumably, by the Steering Committee.

[10] Inspection of Appendix H will show that it was not possible in all cases to write out of context items. Further, the assessment structure explicitly emphasises this transition.

Figure 11.2 (below) is given as an attempt to summarise the differing points of view discussed above.[11]

Figure 11.3 (below) shows how the differing points of view are made manifest in the series of documents given in Appendix B through to Appendix I. This series may be considered to have three repetitive cycles consisting of a period of activity by the Development Group followed by an intervention by the Steering Committee. In the discussion which follows, at attempt is made to relate the two sets of views or *schema* given in Figure 11.2 and the phases of development shown in Figure 11.3, and to show how the Steering Committee's views changed the work in progress and how the Development Group's views persisted.

[11] Common considerations may be identified as the pressure of time and the off-stage sounds of dispute between the teaching unions and the government.

	Development Group	Steering Committee Representatives
Students	Build up and maintain confidence through success. Life-skills. Themes from VTP, Senior Cert. "Typical" student in mind.	Students motivated by novelty of course and vocational contexts. LCA not sub-Foundation level. Novel presentation. Validation. Vocational specialisms. Image of LCA an issue.
Teachers	Clarity as to the extent of the material and the assessment. process. Experienced teachers. Methodology addressed via in-service. Mathematical topics have their own teaching - learning cycle. Material organised by logical order and degree of difficulty. Validation of the programme. Large input from teachers as to content.	Experienced and inexperienced teachers. Methodology implicit in commitment to the programme, documentation, and in-service. Novel presentation and implementation. "Typical" teaching seen as a problem. Image of LCA an issue.
Dept. of Ed.	Source of external assessment and validation. Senior Cert. mathematics in mind. No input from Maths inspectors	External assessment moving away from Senior Cert. model of assessing mathematics within a specific vocational option.
Assessment	Clear mode. Exact specification.	Backwash from assessment to be contained. Exact specification seen as demeaning.
Employers	Evidence of transfer of training. Basic "numeracy".	Establishing worth of *new* programme. Basic skills in literacy and numeracy and general transferable skills. LCA not sub-Foundation. Validation. Novel presentation and implementation. Image of LCA an issue.
Student Tasks	Locally generated. Checked against listing of mathematical material. Tasks designed to cover most of the listing over the duration of the course.	Organising and integrating principle. Maths content would follow the the vocational theme. Maths material revisited in a variety of contexts. Motivational investigations for students - rationale. Novel implementation - not Foundation Maths.
Participation in LCA	Interaction at the level of producing the student tasks. Learning of maths primary.	Coherent participation across the programme. Thematic approach.
Mathematics	Valuable *per se*. Specific mathematical vocational module in Year 2. Large input from teachers as to content. Logical order, degree of difficulty, need for variety.	Problematic. Content determined by vocational contexts - not arbitrary. No specific mathematical module in Year 2. Inform and support all areas of the curriculum. What is included. where, and why, addressed by vocational contexts.

Figure 11.2 Summary of Differing Views

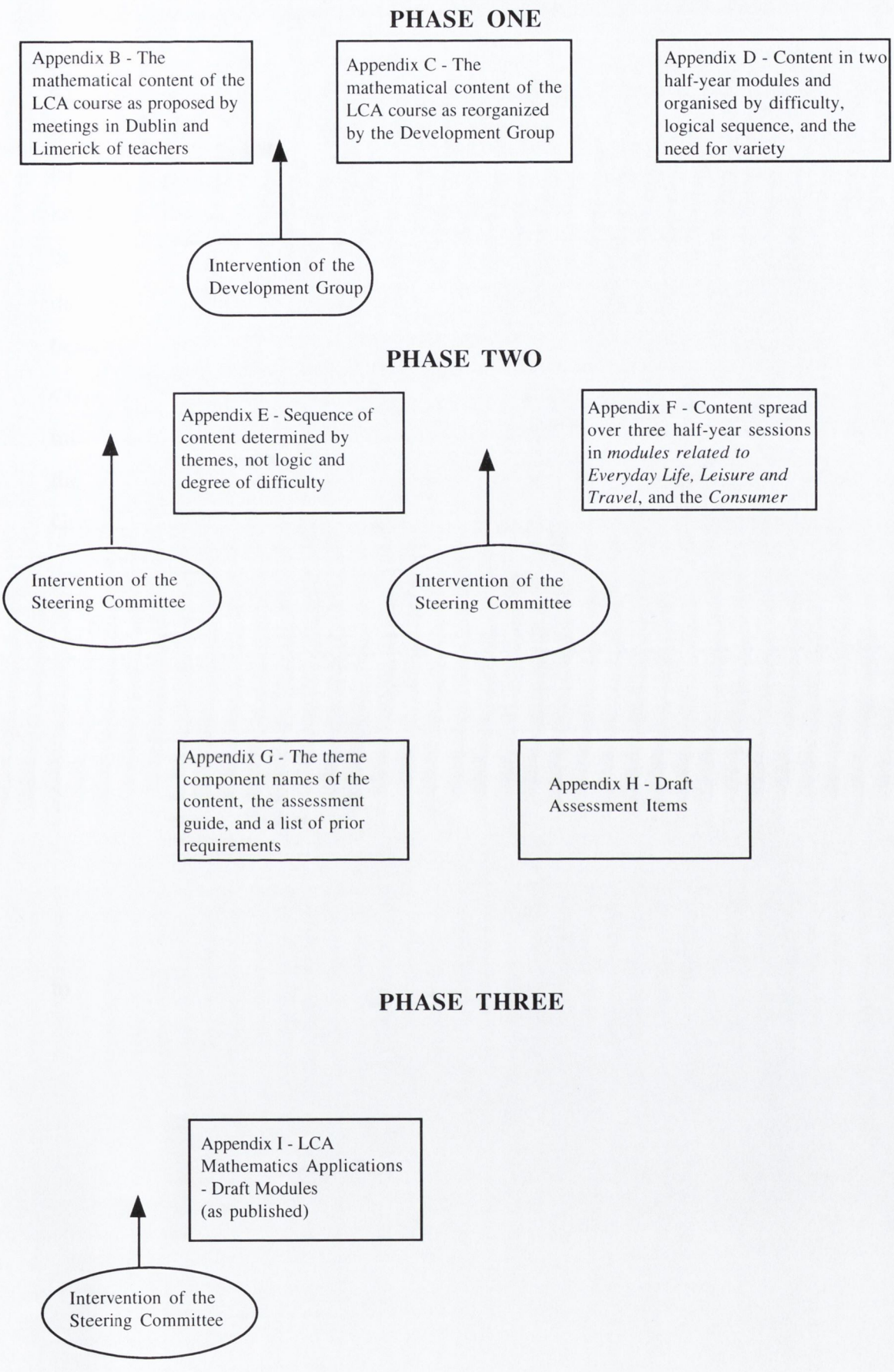

Figure 11.3 Differing points of view manifest in the series from Appendix B through to Appendix I.

As discussed in Chapter 10[12] , the material in Appendix B was contributed from two groups of teachers: teachers of mathematics and teachers of vocational specialisms. The Development Group's intervention of 25th. January, 1995, in Phase One (see Figure 11.3) has been described as reorganising the material given in Appendix B: "The headings were kept, but content was redistributed; individual items were expanded into individual behaviours capable of assessment and given reference codes so that items might be easily manipulated in a database".[13] The phrase "individual items were expanded into individual behaviours capable of assessment" means that where the teachers' meeting had relied upon *examples* to communicate what was intended, the Development Group expressed the intention in a superordinate manner by means of abstract mathematical expression. Thus, the section on probability for Year One of the programme is changed by the Development Group from:

10. Probability 1

The student should be able to:

10.1 Apply the idea of probability in simple situations like selecting a particular dish, room etc.

10.2 To understand possible outcomes of simple random events e.g. dropping buttered toast.

10.3 To know that when repeating the same experiment different outcomes may result e.g. Tossing Coins, Coloured balls in bags i.e. apply the Law of Chance.

to

9. Probability.

10901 Calculate the probability of an event in simple cases, with probability treated as relative frequency i.e. for equally likely outcomes,
probability = $\frac{\text{number of outcomes of interest}}{\text{number of possible outcomes}}$

10902 Calculate which outcome of two events is more likely by comparison of the probabilities expressed as decimals

10903 Calculate the expected outcome of a series of trials by multiplying the probability of an event by the number of trials, and distinguishing between expected outcome and actual outcome

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[12] Chapter 10, section 10.3 "First Drafts of the Mathematical Content of the LCA Course".

[13] Ibid.

The significance of such abstract expression is that it produces *exactness*, clearly setting down the bounds within which assessment should take place, and, in turn, indicating to teachers the bounds of *what needed to be taught*. This intervention by the Development Group might be considered as a completion of the process initiated by the two groups of teachers.

The second document of the Development Group in Phase One is given here as Appendix D. This has been described in the following terms: "The meeting of 26th. January, 1995 considered (the document in Appendix C) and distributed its content over two half-year modules, as required by the LCA structure. In doing this, the group considered the issues of the difficulty of the material, its logical sequence, and the need for variety in the material".[14] Only at this stage did the Development Group turn its attention to the question of themes and curriculum integration: "As a tentative step, each coded behaviour was assigned a theme under the headings of *Maths for Work*, *Maths for Leisure*, and *Maths for Home*. Each behaviour might thus be assigned to one or two or all three of these headings. Thus item 10208 *Convert a proper fraction to a decimal, correct to two decimal places* was assigned to *Maths for Work*, while item 10206 *Write an answer to a money calculation correct to the nearest penny* was assigned to all three headings".[15] The intention here seems to have been that while instruction in mathematics would proceed along the lines set out in Appendix D, opportunities to carry out projects in the areas named Work, Leisure, and Home would arise when enough material had been mastered. Consideration of the work plan set out in Appendices C and D, with the addition of the markers (Work, Leisure, and Home) would permit the planning of the projects to take place (when to start, when to finish).

Phase Two begins with the intervention of the Steering Committee and its response of the 8th. February, 1995. The Development Group's first response, the document given as Appendix E, reversed the principle that the mathematical behaviours, ordered by logic and degree of difficulty, would be flagged as contributing to one of three areas in which projects might be carried out. Instead, the three areas (Work, Leisure, Home) are expanded into six *themes* with the working titles: *Leisure and Social Maths 1 and 2*; *Travel and Tourism*

[14] Ibid.

[15] Ibid.

Maths 1 and 2; Consumer Maths 1 and 2; *Maths for Income and Wages 1 and 2; Communication Maths 1 and 2*; and *Maths for Home* (to include *DIY/Agriculture/Horticulture)1 and 2.* However, within these themes, the sequence of the procedure numbers indicates that the issues of logic and difficulty were still alive.

Further work by the Development Group produced an addition to the format: a notes column which could be used to "indicate suggested contexts of application, possible teaching approaches, and issues of rationale, for each of the coded behaviours".[16] This addition seems to be directed towards teachers and also towards the Steering Committee. A further communication from the latter body indicated that the material should be distributed over three half years, showing, perhaps, a concern with the amount of material and the thoroughness with which it was set out in the documentation. The Steering Committee also requested that "the coding numbers for each behaviour should not appear in the course documentation". [17] The documents in Appendices F and G give the total outcome of these revisions by the Development Group.

A comparison between Appendix E and Appendices F and G reveals certain ambiguities in the Development Group's responses to the Steering Committee's wishes. On the one hand, a thematic, "booklet" structure is clearly in place, as is indicated by the titles of the parts of the three modules. However, these booklets are also referred to as Blocks A to P in Appendix F, names that are then used to construct an assessment guide in Appendix G, indicating that assessment points would occur at the completion of each block, and also to indicate assessment requirements, which show which blocks need to completed before others may be attempted. Interestingly, the procedure codes persist, despite the Steering Committee's request that they be removed. However, it is clear that the ordering by logic and by difficulty of Appendix C has been reduced to the mere assessment requirements of Appendix G.

The second phase of this series of documents is concluded by the document given as Appendix H, the draft assessment items. Several features are of interest: the behaviour codings are reborn (the first behaviour in Block A, 10101, is now simply A1), two

[16] Chapter 10, section 10.5 "A Reply to the Steering Committee"

[17] Chapter 10, section 10.6 "Further Comments from the Steering Committee and the Development Group's Replies"

assessment items (one in-context and one out-of-context) are given for each behaviour, and a passing criterion that 50% of assessment items should be correct is given. In short, the design of the assessment instruments seems to have given the Development Group the opportunity to reinstate its point of view. As the question of assessment was always a key issue for the group, this is hardly surprising.

The third and final phase of the series of documents is represented by one document given here as Appendix I: the draft modules which were eventually published and distributed to schools. It would appear that the Steering Committee would have had a large input into this document, and the fact of its publication (despite the tag "Draft") would indicate inputs from the NCCA and the Department of Education. The sole response to the Development Group on 18th. May, 1995 was that the draft assessment procedure appeared to be too long, and that four or five assessment criteria might be sufficient.[18]

A comparison between the documents shown in Appendices F and G, representing the last work of the Development Group, and that in Appendix I - the *Draft Modules*, as published, reveals the following changes:

- ◇ The theme components (now called *units*), and the sequence inside each theme (now called *module*) have been given.
- ◇ The assessment guide to each unit has *not* been given.
- ◇ The requirements guide to each unit has *not* been given.
- ◇ It is stated that there are no prerequisites to the modules *Maths for Living* and *Maths for Leisure*. These two modules are, however, stated to be prerequisites for the module *Maths for the Consumer*.
- ◇ A statement described as *Purpose* is given for each module.
- ◇ A list of *Aims* is given for each module.
- ◇ Each unit contains the same (uncoded) behaviours, but following the numerically coded sequence, save for the following:

  •10301 Block B *Using Time* has changed from "Know the units of time....." to "demonstrate knowledge of the units of time....." .

[18] Chapter 10, section 10.7 "Draft Assessment Items".

•The entire Block D *Communicating Maths* has been omitted. As this is named as a unit in *Appendix B - Draft Modules* on page 2, this is presumably an error.

•10901 Block F *Taking Chances* : the definition of probability as the ratio of number of outcomes of interest to the number of possible outcomes has been omitted.

•10706 Block G *On the Road* : "Convert measurements from a simple scale drawing to true values" and its associated note "Map work, distances on maps. Using Ordinance Survey maps. Scaled maps." have been omitted.

•10604 Block G *On the Road* : "Know average seasonal temperatures (°C) in Ireland" has been changed to "Interpret average seasonal temperatures (°C) in Ireland".

•10808 Block G *On the Road*: "Use d= t x s formula to solve for one unknown" and its associated note "Planning journey times - allowances for speed limits, traffic stops etc." has been omitted.

•10212 Block N *Triangle Maths*: "Use the $(\ )^2$ key correctly to a given accuracy" has been omitted.

A section named *Purpose* and a section named *Aims* was added to each module in the published document. These sections are as follows:

Maths for Living

1. Purpose

The purpose of this module is, through practical applications, to develop the skills and confidence of pupils in the subject of mathematics and to encourage them to recognise its use in everyday life.

3. Aims

- To promote practical applications.
- To teach the use of calculations[19].
- To stimulate the interest and enthusiasm of students in identifying and solving problems.
- To identify and and eliminate weakness in students' skills.

[19] Calculators?

- To develop an understanding of statistics and statistical methods.
- To develop skills of analysis and data presentation.
- To develop an understanding of the units of time and their uses.
- To teach the correct and accurate use of mathematical instruments.
- To develop pupils abilities to undertake problems involving mental arithmetic.
- To develop pupils confidence in dealing with problems associated with wages, allowances etc.
- To demystify maths[20] .

Maths for Leisure

1. Purpose

The purpose of this module is, through practical applications, to develop the skills and confidence of pupils in the subject of mathematics and to encourage them to recognise its use in the world of work[21] .

3. Aims

- To promote practical applications
- To increase skill in the use of the calculator
- To stimulate interest and enthusiasm of pupils in identifying and solving problems
- To develop an understanding of the concept of probability
- To further expand statistical techniques
- To introduce manipulation of simple formulae
- To educate pupils in specific areas of mathematical applications associated with paid employment
- To identify and eliminate weakness in pupil skills
- To further develop ability to use calculator[22] .

[20] Draft Modules, pp. 1 - 2.

[21] Work should be Leisure and Travel (?)

[22] Draft Modules, pp. 7 - 8

Maths for the Consumer

1. Purpose

The purpose of this module is, through practical applications, to develop the skills and confidence of pupils in the subject of mathematics and to encourage them to recognise its use in the world of the consumer.

3. Aims

- To promote practical applications.
- To improve skill in the use of calculators.
- To encourage pupils to identify and solve problems.
- To educate pupils in the basic mathematical skills of business.
- To introduce knowledge and skills required for all modes of measurement and scale.
- To teach pupils how to manage, manipulate money.
- To identify and eliminate weakness in pupils skills.
- To develop pupils abilities to undertake problems involving mental arithmetic.
- To develop pupils confidence in their ability in the subject of mathematics.
- To encourage logical thinking[23] .

The absence of the assessment procedures devised by the Development Group effectively reestablishes the Steering Committee view as the prevailing view. Still, some ambiguities remain. All mention of mathematical formulae has been removed, possibly to assist in "demystifying mathematics". The individual behaviours appear to have been co-opted as the behavioural objectives which one would expect to see follow the use of the word *Aims*. Furthermore it seems difficult to understand how an aim such as "To identify and eliminate weakness in students' skills" can be achieved unless a thorough listing of such skills and instruments to measure them are available.

[23] Draft Modules. pp. 11 - 12

11.5 Conclusion

The purpose of the foregoing discussion is to set out more clearly how the differing frames of interpretation failed to constitute some sort of common understanding of the tasks in hand. This work now turns to a more detailed examination of the reasons why this happened. Three issues are discussed, with a view to assessing how these might have shaped the frames of interpretation and their consequent collisions: the contemporary orientation of educational policy towards education and training for employment, the practice of being a teacher of mathematics to students in such programmes as the LCA in post-primary schools in Ireland, and the possibility of a "theory effect" due to the participation of this author.

Why are these three issues selected?

It is possible that the Steering Committee found that the ground was shifting under its feet as the development of the LCA programme proceeded. Certainly, given the composition of this body, and the fact that ultimate decisions are the responsibility of the Minister, advised by her officials, the Steering Committee is more likely to have been concerned with the evolution of policy than the development group for Mathematics Applications. It would seem to be productive to examine the context within which policy developed and changed.

In considering the practice of being a teacher of mathematics to students in such programmes as the LCA in post-primary schools in Ireland, the issues which shaped the contribution of this author and the other members of the development group, as teachers of mathematics, are assessed. The other members of the development group brought to their tasks their experience of engagement in the same curricular area, but working with students whose level of poverty and disadvantage exceeded the experience of this author. All the members of the development group had taught students following "alternative" courses of one sort or another. What would such practice contribute to the frame of mind the development group brought to their task? A persistent feature of this work is an awareness that there is something special about mathematics. What would the practice of teaching *mathematics* in post-primary school in Ireland contribute to the development group's views?

The possibility of a "theory effect" due to the participation of this author is examined as part of the methodological programme of participant objectivation set out at the beginning of this work.

12 THE ORIGINS OF DISAGREEMENT

12.1 Introduction

The figures (11.2 and 11.3) given towards the end of Chapter 11 show the areas where the varying points of view emerged between the development group and the representatives of the Steering Committee. Three interpretative frameworks have been given as possibly shaping these conflicting points of view. What follows is given with the aim of showing how and why, at that time, in that place, systematic misunderstanding arose.

12.2 Evolution of Policy and Differing Frames of Interpretation

A major economic policy aim has been identified in the current period. This has been described as the orientation towards education and training. Provision of pre-vocational and vocational education is a policy initiative which contributes to that aim. A second, emerging policy initiative contributing to that aim addresses the issue of attainment in education.

Access to education, a more general initiative, of which provision of pre-vocational and vocational education is a part, also contributes to the political aim known as equality of educational opportunity.

The access to education initiative takes the contemporary form of seeking to increase participation rates among 17 to 18 year old students to a figure of 90% of the age cohort. Two subsidiary objectives of this policy are the provision of a wide range of educational programmes and the retention of the students in these programmes.

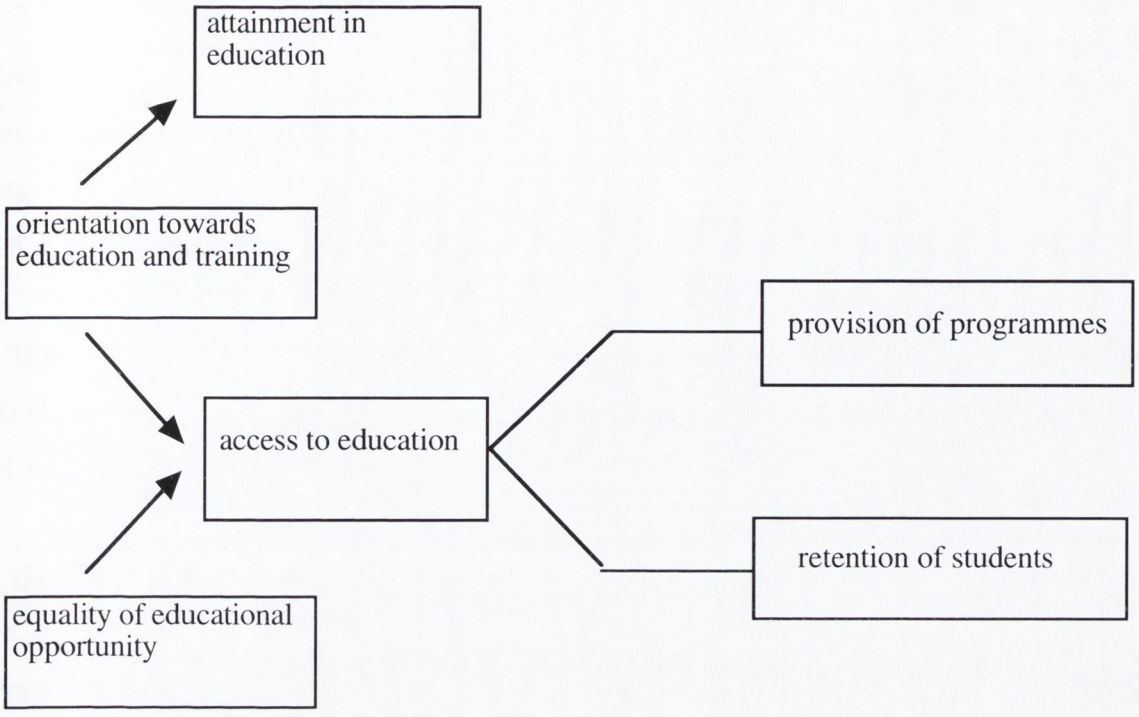

Figure 12.1 Policy Aims and Objectives

As provision of vocational education has been postponed until the completion of the senior cycle of post-primary education, only general and pre-vocational education can be said to be provided. Two subsidiary objectives of this policy are changing the character of what students study in school, and regulating, in line with EU practice, the transition to further education and training when post-primary education is finished. Concerning the former, best practice in pre-vocational education is believed to consist of the provision of a general education, together with the development of attitudes thought desirable by industrial interests. The orientation towards work, characteristic of such programmes, serves both as a context within which such attitudes should be developed, and as a source of motivation for young adults. The motivatory aspect can be seen also as a contribution towards the objective of retaining students within such programmes.

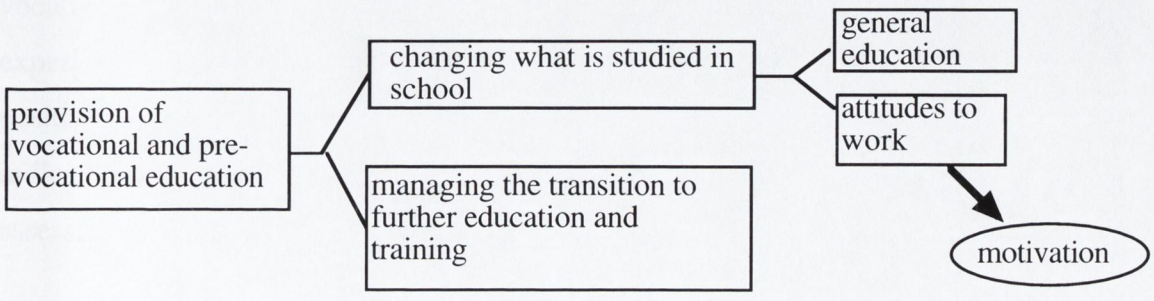

Figure 12.2 Motivation

The emerging attainment in education initiative seeks to identify, in some detail, the knowledge and skills students possess as they complete programmes of education. Such an analysis is thought to permit a comparison between the outcomes of post-primary education and the needs of industry and employment. It is possible that these policy initiatives may, on occasion, come into conflict with each other.

The case of the LCA programme has been examined, and the following characterisation of its development, within the terms of the framework of policy, relating to the general features of the course and to the Mathematical Applications section of it, is offered for appraisal.

The educational initiative known as the Senior Certificate provided an initial model for the LCA, though the Senior Certificate predates the contemporary policy that specifically vocational education will begin after the completion of the senior cycle of post-primary education.

The Senior Certificate programme may be seen as addressing the objectives of access to education by the provision of an education suitable for a cohort of students for whom no realistic provision existed. In the area of mathematics, the acquisition of numeracy and the use of the calculator was addressed in the first year of the programme, and externally assessed by the Department of Education. In the second year of the programme, students studied mathematics in specifically vocational contexts; such study having an element of complexity specific to the vocational area. These vocational numeracies were also externally assessed by the Department of Education. The issue of retention of students in the programme proved problematic, with less than 50% of students completing the two year course, though students who completed the first year assessments, both internal and external, received an educational credential from the Department of Education. The issue of the provision of pre-vocational and vocational education was addressed by the highly vocational focus of the second year of the programme, and a consistent pattern of work experience by the students. The issue of retention may be said to have been addressed positively by the annual external assessment by the Department of Education, which was to indicate that the credential was of worth, but also negatively, in providing a mode of assessment which caused difficulties for the students.

Work on the LCA began in October, 1993, that is, after the publication of the *IPRG*

Report and the report of the *Moriarty Task Force* in 1992, and the government's response *Employment Through Enterprise* in May, 1993. *Circular M31/93* of July, 1993 had made no mention of the LCA, proposing that Leaving Certificate subjects should be available at three levels, Higher, Ordinary, and Senior. *Circular M47/93* of November, 1993 gave some details of the LCA, indicating that it would be an entirely separate programme, that it could not be taken in conjunction with regular Leaving Certificate subjects, and that the LCA would not qualify students to proceed directly to third-level study. Thus the LCA was being developed in a period when the policy relating to the provision of pre-vocational and vocational education changed rapidly.

The initial discussions and ministerial decisions concerning the LCA may have had a variety of issues to resolve: how might students have access to the LCA programme in schools[1] , how might LCA students be placed in the specifically vocational education and training possibilities available after the completion of the senior cycle, and how might retention rates be improved. The first two issues would require negotiations at the first and highest level of power.

As an outcome to these discussions came the restriction of LCA students to PLC courses as their first step in the direction of specifically vocational education and training. This immediately removed the requirement for recognition by bodies which provide third level education. The LCA programme would be divided into modules requiring participation of approximately one half-year or semester in duration. Satisfactory completion of these modules would attract recognition from the system of vocational awards being developed by the NCVA, thus permitting early leavers to obtain credit for work they had completed, and to offer opportunities to pursue further training when they wished. Moreover, the external assessment of the LCA programme by the Department of Education would be restricted to the end of the two year programme, this assessment permitting the course to be described as a Leaving Certificate, and hence culturally (but not academically) orthodox. The LCA programme was to be "ring-fenced", ensuring the separation of the LCA students from other Leaving Certificate programmes (and the class lessons of the academic subjects of those programmes). Later, in the course of the development of the LCA programme, it was decided that students would follow courses in two vocational specialisms (as opposed to one in the Senior Certificate), and that the specifically mathematical vocational specialism

[1] On the face of it, an unremarkable statement. See below, however.

would disappear. The study of mathematics was to be restricted to the contexts of Student Tasks, and serve only the objectives of those tasks. The broader movement of which this is part has been described as the provision of pre-vocational education.

The policy objective of access was (formally) addressed by the provision of the LCA course, presumably following discussions with those who control or own schools. Some secondary schools and their secondary teachers would be most likely to be challenged by the provision of the LCA. It is not clear which decisions solely addressed the other aspect of *access* policy, the retention of the students in the programme, for not all policy considerations may have been identified here. The degree and nature, if any, of the NCVA's input into the character of the LCA programme, given that that body would eventually certify the components of that course, is not clear, though the specific orientation of that body towards the EU policies and objectives in the area of vocational education and training may provide some clues. The degree to which the bodies who were consulted wished to have the LCA students "ring-fenced" from other Leaving Certificate programmes, as a condition for the provision of access to the LCA in schools is not clear. The separation of the LCA students from other students was claimed to be advantageous, because it was said to emphasise the novelty of the course, aid student motivation, and clearly avoid any unflattering comparisons with Foundation level subjects at Leaving Certificate, such as mathematics. It is not clear which aspects of the Senior Certificate were identified, if such an identification took place, as inimicable to the policy objectives of retention of the students in that programme. However, it is possible to claim that the decisions concerning the reduction of external assessment by the Department of Education, given the preexisting practice of assessing numeracy, and of assessing mathematical knowledge and skills with a degree of complexity within a specific vocational context, would reduce the "backwash" effect of such an assessment process upon the LCA programme. It may have been thought that such a measure would promote the ascendancy of context over content, permitting the issue of student motivation to be addressed directly. One clear outcome is that the LCA students would be likely to study less mathematics.

The policy objective of providing vocational and pre-vocational education was addressed by the provision of the LCA and LCV courses. With regard to the former, regulations governed the transition of LCA students to specifically vocational education via PLC courses. Best practice in the provision of pre-vocational education is currently believed to

consist of the provision of a basic general education and the development of desirable attitudes towards work. To what degree can policy decisions concerning the LCA be seen as promoting such practice?

It is possible that the move towards the students taking two vocational specialisms may be seen as promoting desirable attitudes such as flexibility, the recognition of the necessity for retraining, etc., the LCA programme acting as a metaphor for a future working life. As with the Senior Certificate, a consistent pattern of work experience is provided for the students.

It is possible that the objective of providing a basic general education was to be addressed firstly by providing motivating, work-oriented, adult-oriented contexts, within which the students' existing, but not extensive, *junior cycle* general education might be enhanced, leading to a Level 1 stage of vocational preparation, as described by EU policy. Evidence for such a view may be found in the belief that the students' mathematical knowledge would be built up by the visiting and possible revisiting (in a "natural, organic manner") of mathematical material within the vocational contexts of the Student Tasks, and also in the desire that English/Communications, Information Technology, and Mathematics Applications would inform and support the entire programme. These desired outcomes seem very like those one would expect from general education, though the LCA documentation insists on describing it as vocational education. Education in mathematics, however, was not to be addressed in the conventional manner of general education. While the rationale, as a source of motivation, for the study of mathematics in the LCA was to be addressed by the vocational or "life-like" contexts of the Student Tasks, the issue of what mathematical knowledge and skills the students would acquire seems unclear, and a function of the particular tasks prepared for the students. In this regard, the emerging policy consideration of the inventory of student attainments seem not to have been addressed at all.

The following diagram seeks to show some features identified in the foregoing discussion. The policy aim of access and of the provision of pre-vocational education in post-primary schools are both addressed by the insertion of the LCV and LCA into the provision of programmes objective of the access aim.

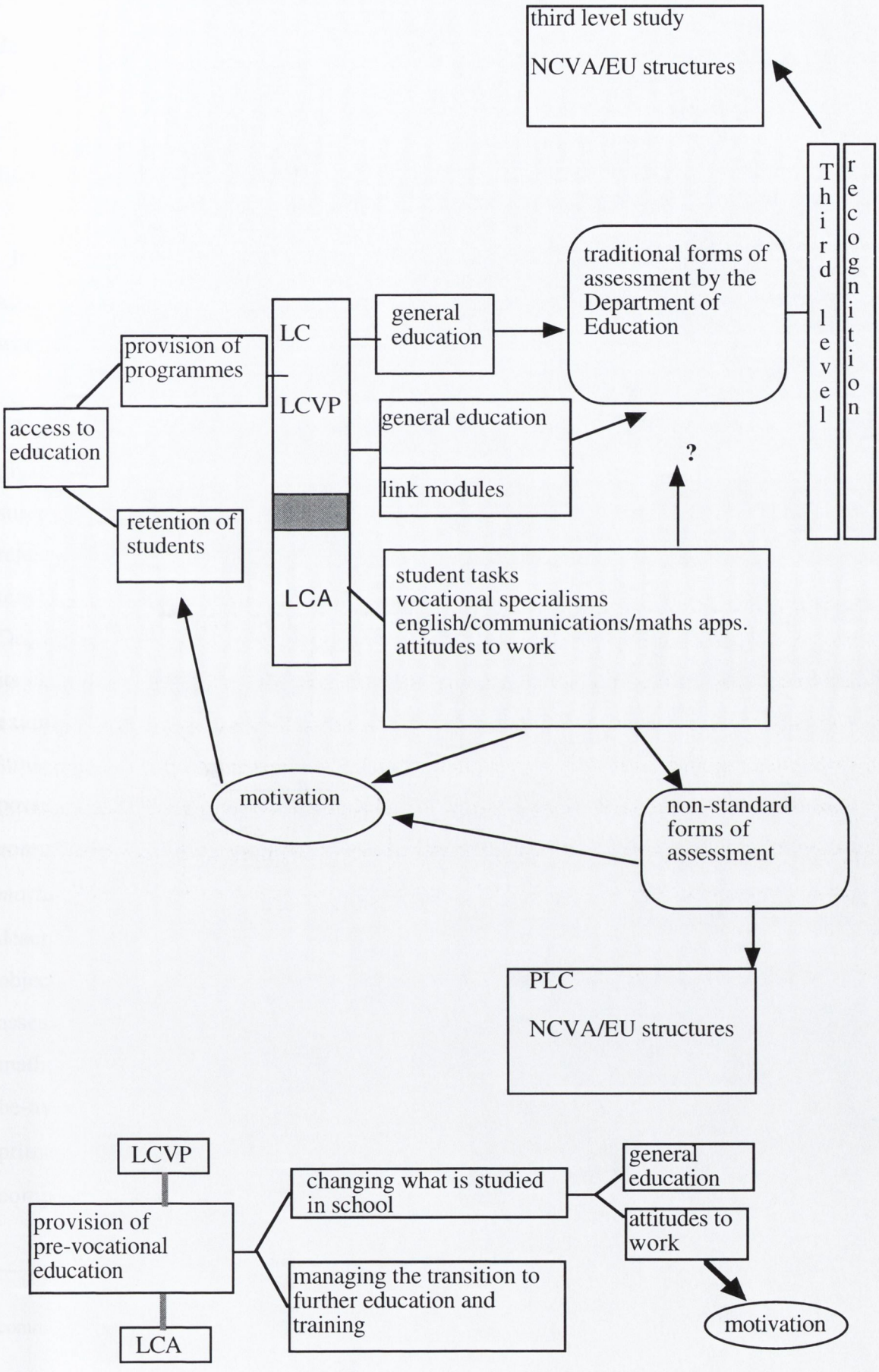

Figure 12.3 Summary

This work claims that the main, if not sole, policy consideration the teachers in the development group for Mathematics Applications brought to their task was the issue of assessment. Apart from issues of teachers' practice, which is considered below, it is claimed that the teachers saw the matching of the external assessment by Department of Education to the students' course work in mathematics as a central issue.

It is possible that the there are are at least two dimensions to the teachers' concern with assessment: the recognition given to the LCA course, and the attainment by the students of a worthwhile corpus of mathematical knowledge and skills.

The public perception by students, parents, schools, and employers, of the recognition given to the LCA course, the teachers believed, would have immediate consequences for student participation; an aspect which is related to student participation, motivation, and retention in the programme. The most valued instrument in obtaining such recognition, the teachers believed, was the certification of outcomes via external examination by the Department of Education. Unless some entirely new method of assessment was produced, its character would be that thought appropriate to general education, that is, course work examined outside of a particular context, or set in contexts thought to be familiar to the students. For teachers to prepare their students for successful assessments, the clearest possible communication of the mathematical content of the course must be made. The clear communication of the extent of mathematical course work is aided *by the very nature of mathematics itself*.[2] Furthermore, the adoption of a mode of presentation which used descriptions of student behaviours, a mode which is in character with the emerging policy objective of identifying attainment in education, gave very precise objectives for the external assessment to address. Unfortunately, such clarity permitted a comparison of the LCA mathematical material not only with other Leaving Certificate courses such as the much-to-be-avoided Foundation course, but also with Junior Certificate courses, and indeed, the primary school curriculum.[3] While such comparisons could not take place at the level of comparing student behaviours, for only the LCA course is written in this way, the

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[2] This is discussed below. Mathematical communication only has such a character providing the communicating parties have been socialised in its use.

[3] This point emphasises the fact that in Irish society there is a strong association between the value of knowledge and the age at which it is typically acquired. There is no provision whatsoever for a senior cycle student to take examinations in subjects or courses at Junior Certificate level.

mathematical content is still clear enough for a comparison to be made.[4] The teachers of the development group appear not to have been disconcerted by such comparisons, because of the value they attached to the knowledge and skills the students were to acquire. In this view, such a corpus of knowledge constituted a very useful and transferable collection of mathematical knowledge and skills.

One way of representing the viewpoint of the teachers in the development group for Mathematics Applications is to add the features identified in the foregoing discussion to those in *Figure 12.3*, producing *Figure 12.4*. The link provided at the point marked with * gives access to the status offered by such assessment, by participating in its forms. The link is provided by the adoption of a mode of presentation which used descriptions of student behaviours.

The immediate, and unfortunate, consequences of making a connection from the LCA to the status offered by traditional forms of assessment, is that comparisons can be made with other programmes, and that recognition of the LCA is not guaranteed, as is exemplified by the fate of the Leaving Certificate Foundation course in mathematics. This is perhaps evidence that teachers, among others, are too quick to assume that traditional forms of assessment by the Department of Education at Leaving Certificate automatically guarantee recognition by the universities and other third-level bodies, whose power as key agents in the field of education may be increasing. Another way of saying this is to claim that the teachers mistook usefulness for value. What is missing from *Figure 12.4* is a source of recognition for the LCA programme. Moreover, as the NESC observed, the LCA students will compete with students from the LCVP and the traditional Leaving Certificate for places on PLC courses. The same remark holds true for students who wish to proceed to work.[5]

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[4] As has been remarked earlier, the disenchantment produced by such analysis may not be restricted to the LCA. A similar analysis of student behaviours which result in a passing D3 grade at Ordinary level Leaving Certificate, and elsewhere, is likely to provide uncomfortable reading for a large audience.

[5] There is informal evidence that some students are offered work as a result of taking part in work experience programmes. Such programmes offer employers an informal way of directly assessing the work skills of a student, unmediated by the issue of examination results. How the value of the LCA programme will be communicated to employers is unclear.

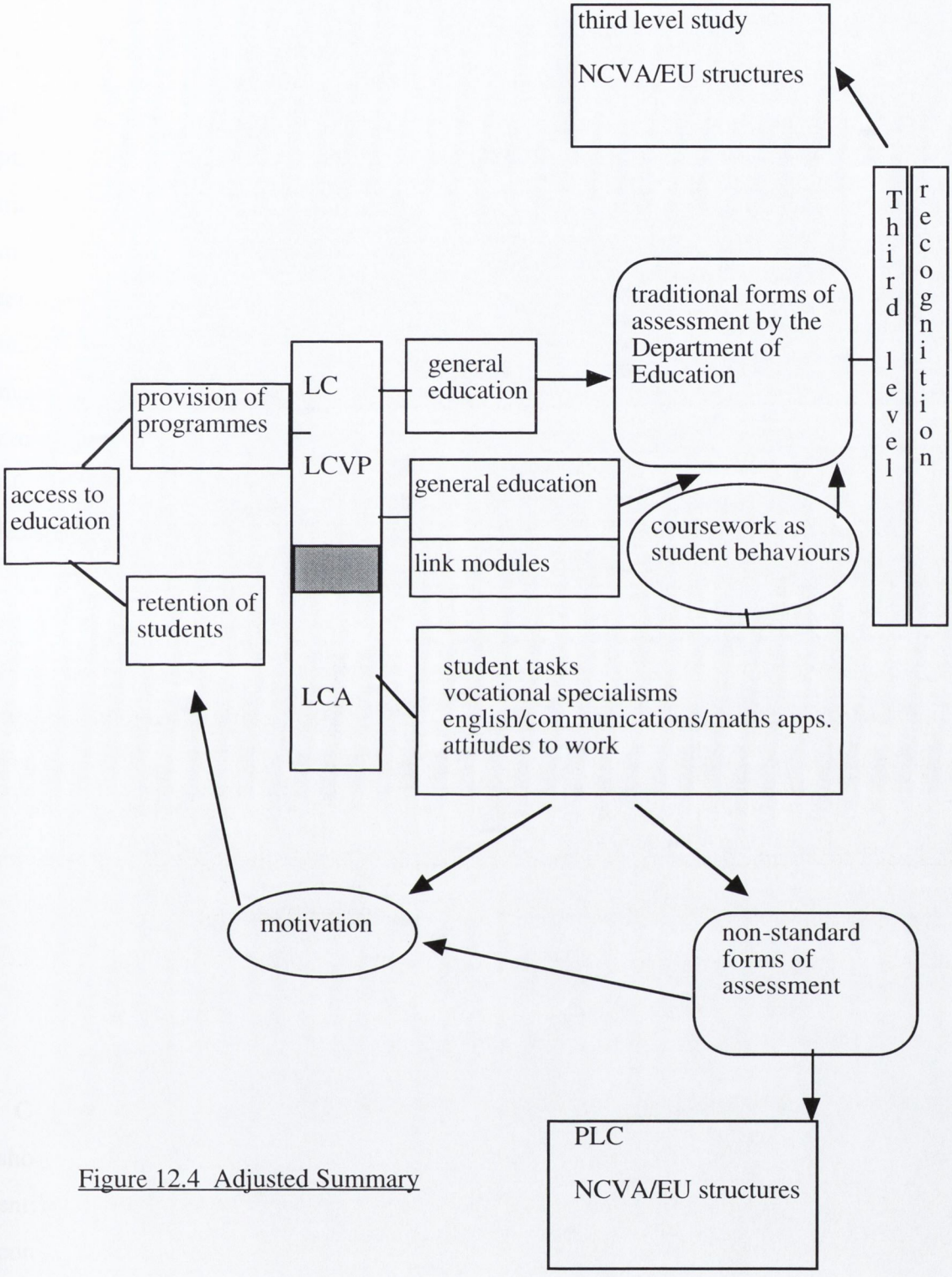

Figure 12.4 Adjusted Summary

Mathematics, as a school subject, appears to have a highly differentiating effect upon a population of school students. It is highly valued as a school subject, and is studied by practically all students who are retained in the post-primary school system in Ireland. In many schools, mathematics is one of, if not the only subject for which extra provision is made in the time-table. At an international level, there is evidence of the existence of a tension between mass participation in education and the coherence of the body of mathematical knowledge taught in school; a coherence judged from the perspective of mathematics as an academic discipline taught in the universities. There is evidence of an erosion of this coherence ("extent, selection, sequencing") of the discipline by the demands of classroom methodology, demands that appear to be driven by what can be taught (or learned) by a mass audience.

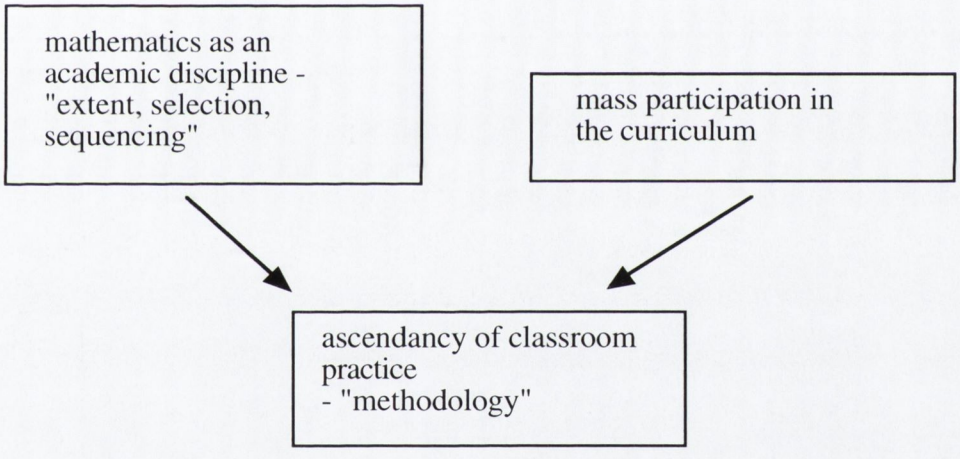

Figure 12.5 Ascendancy of Classroom Practice

Opportunities to openly address this issue of "erosion", and the general issue of what should be taught, and why, have been missed in Ireland during periods of major reform of entire programmes, because mathematics courses were changed in advance of such conjunctures. As a result, in one view, school mathematics, as a form of knowledge, lies somewhere between the *doxic* or unquestioned areas outside discourse, and the heavily restricted or orthodox region of opinion, regulated by the power groups active in the educational system. In particular, the opportunity to provide a way of valuing mathematical knowledge which is useful has not been available, though the task would not have been easy.

The provision of differentiated courses in mathematics in Irish schools, particularly at senior cycle, caused a complex confrontation between the post-primary education system which sought to credentialise such differentiated courses and third-level institutions which were reluctant to recognise all such credentials. An interesting feature of this conflict is that while the Foundation course in mathematics at Leaving Certificate appears to satisfy many of the "coherence" criteria of mathematics as an academic discipline, it currently fails to obtain full value as a credential.

There was to be a mathematical element in the course of studies of the LCA. Such a course was to follow the demands of the coherence of the LCA programme, that is, to address the needs of the cohort of LCA students; needs identified by the Steering Committee of that programme.

Difficulties arose in the design of this mathematical element of the LCA. The differences between the Senior Certificate and the emerging LCA were not initially clear. Residual elements of the coherence of mathematics as an academic discipline ("extent, selection, sequencing") persisted, though classroom practice dictated the selection of the material and its extent. The teachers who contributed either initially, or later, in the development group, continued to believe that the body of mathematical knowledge assembled in this way was valuable, useful, and substantial, and could be successfully mastered by the generality of students, if appropriate methodologies were applied by experienced teachers. The body of knowledge, thus assembled, did not need to explain itself because it was mathematics and because it was useful. Moreover, the learning outcomes were written as precise student behaviours to ensure a clear match between what should be taught and the manner in which the external assessment by the Department of Education took place.

The provision of differentiated courses in mathematics has had an impact on the teachers of mathematics. It is not clear how mathematics teachers have reacted, at the level of classroom methodology, to the provision of courses at which most students can be successful. There is evidence from this author's experience of providing in-service for Foundation level courses in junior cycle and senior cycle, and from the tenor of the Dublin teachers' meeting which made proposals about the LCA mathematics element, that the issue of what might be described as the existential aspect of the student's participation in the school project must be addressed as well as the material to be learned. Teachers seem often

to use the phrase "the self-confidence issue" as a shorthand term for these larger issues. Moreover, no matter how good the teacher is, there is informal evidence that students will only go "so far" with mathematical material before what is presented is rejected by the students as utterly out of the question. Such a rejection can take a variety of forms. In classrooms where the students are engaged in cooperative work practices with the teacher, and feel they can control the pace and style of their own learning, the refusal is quite open and honest, an "all or nothing" approach, and appears to be based on the principle that the students will only do or learn what they feel they understand or may possibly understand. One of the pleasures ("psychic rewards") of teaching is to enlarge that universe of possibilities.

Part of the "self-confidence issue", at least in the initial stages of instruction of senior cycle students, is the realisation that the material should have been learned at an earlier stage of schooling. As there is no provision within the formal school system in Ireland for senior cycle students to take examinations in some subjects at junior certificate level, this triple association of material, age, and assessment can be unhelpful. Teachers may answer student concerns about this by claiming that the material is of value no matter at which age it is required.[6]

An examination of the material given in Appendix B, "The mathematical content of the LCA course as proposed by meetings in Dublin and Limerick of teachers involved in the vocational specialisms, organised under a variety of headings, and distributed over the two years of the programme", reveals mathematical material which is mainly practical and oriented towards a variety of everyday tasks which face the citizen. One feature of this material is the degree to which it is oriented towards a world of instruments, gauges, and units; and towards the interpretation and production of information given in tables, charts, and design drawings. The contexts are those of homes, business, travel, and employment. Elements of complexity enter in with tax calculations, and the estimation of area using Simpson's Rule. More formally, the treatment of statistics extends to the estimation of the median from a cumulative frequency curve. Taken as a whole, the material represents a body of material which was either considered to be of general use and application (that is, having the character of general education), or of a more complex or formal nature; all of the

[6] A comparison between the content and assessment of the Higher level Junior Certificate mathematics course and that of the Ordinary Level Leaving Certificate course would appear to confirm this view. Consideration of *time* is, for Bourdieu, a key sign that the logic of practice is at work.

material being considered, upon the basis of practice, to be capable of being mastered by the students. The term "mastered" refers here to the "all or nothing" character of the learning style of students in "such" programmes.

The material given in Appendix C, "The mathematical content of the LCA course as reorganised by the Development Group at a meeting in Dublin, 25th. January, 1995", with the emphasis on the behaviour of the student indicated by the repetitions of verbs, directs attention to student activity. Here is the complete verb list from the material in Appendix C, concerning the first year of the programme.

Table 12.1 Verb List from the LCA Mathematical Applications

roughly estimate	perform accurately	read
round off	obtain the correct answer	find
write correct to the nearest penny	correctly write down	take a reading
write correct to...decimal places	correctly use	collect
estimate	use	measure
know		classify
		record
construct (geometrical)		
		interpret
do		
		present
interchange		express
convert	add	
	subtract	
increase	multiply	
decrease	divide	
	calculate	

This analysis (and grouping) permits one possible interpretation of the range of student activities: knowing, estimating, approximating, working accurately with a calculator (at arithmetic; including percentages, measure, wages etc.), converting units, and the interesting cycle of collecting or reading data, classifying and recording it, interpreting such processed data, and communicating outcomes.

The manner in which the mathematical course material was assembled for the LCA does not constitute a *rationale* determined by the canon of mathematics as an academic discipline, though the more formal elements are perhaps a gesture in that direction. The headings used in the material in Appendix B are those one might expect in a mathematics course, and have become the usual terms of reference for varieties of mathematical knowledge experienced in

school. The headings represent, perhaps, the markers for which the teacher's eye might search as the documentation was read, and perhaps represent the habitual categories acquired by teachers through their own mathematical education.

The telegraphic phrases which make up the material in Appendix B are read by an experienced teacher as calls on experience: how many lessons for that, the typical mistakes and pitfalls one might expect during learning, the typical manner in which such material is traditionally assessed by the Department of Education, what materials will need to be assembled. Different readers, however, might take different meanings from such a text. In particular, the representatives of the Steering Committee saw such text as inviting teachers to teach the material as a course in mathematics in a stereotyped way, and also inviting unwelcome comparisons with other courses, and the conclusion that the LCA material constituted a sub-Foundation level course.

The teachers appear to have viewed the material as unproblematically of value, and do not seem to have been troubled by the question of a *rationale* for it. For the representatives of the Steering Committee, *rationale* was important, and that *rationale* was to be provided by the vocational contexts which would call forth the mathematical content on demand. What does this dichotomy mean?

One possible answer lies in seeing both points of view as possessing limited perspectives of human agency. For the teachers, the only real context (so real it is invisible) is school and the cycle of teaching, learning, and successful assessments. The doubts and insecurities of the students are to be addressed by the teacher's conviction that the material is worth learning, and through the offer that engagement and participation will lead to success. For the representatives of the Steering Committee, vocational contexts constituting an orientation pointing away from school, and towards adult, working lives, would provide the motivation for the material being what it was; though not intended, in fact, to be an adequate preparation for such occupations as the vocational contexts suggested.

Another possibility is that the teachers who contributed in one way or the other to the development of the mathematical course material saw their existing practice as successful, and hence unproblematic. The representatives of the Steering Committee may have had a different view of how the generality of teachers teach. What is worth attention is that the

teachers were not asked to address this issue, and that the Steering Committee chose and insisted, as best they could, on an organisational form, a bureaucratic control, which, they appear to have believed, would encourage the generality of teachers to change its practice.

The structure which was used to develop the LCA differed in many respects from the typical, subject based, course committee model used by the NCCA. The development group approach which was used for Mathematics Applications may have been chosen on such practical grounds as expense, a reason which carries its own import; the quicker pace of work to be expected from a group of three people; and perhaps the belief that teachers, separated from the university "knowledge police", that is, unhampered by a concern for the coherence of the knowledge set out in the course work as an academic discipline, might be able, through the application of "pure" practice, to produce work which would ensure participation by the entire cohort of LCA students. The failure to use the development group's attempts at draft assessments, and the fact that the whole group was not involved in the design of in-service, may be interpreted as evidence for all of these grounds.[7]

Some mention has been made of the apparently unquestioning belief of the teachers involved in one way or another in the development of the mathematical aspect of the LCA, in the value of mathematics as a form of knowledge. The teachers appear to believe that is both useful and valuable (valued). More tentatively, there may be a belief that mathematical knowledge is, and speak it softly, in some sense a superior form of knowledge.

The diagram shown below is given as an attempt to summarise the features of the process, as seen from inside the practice of teaching mathematics, through which value is assigned to what might be taught by way of mathematics in school. Two of the variables which might constitute the "space" or "field" in which the valuing takes place are given here as

[7] An analysis of the experiences of other development groups, in these terms, would be useful.

"independence from context" and "complexity/abstraction".[8] "Value" may be seen as something which arises from position (p) in this "field", and two valuing functions are indicated, one ("g" is irresistible) for general education and one (v) for vocational education. The diagram indicates the claim that that g(p) increases along the diagonal path shown, and v(p) increases along the horizontal path shown.

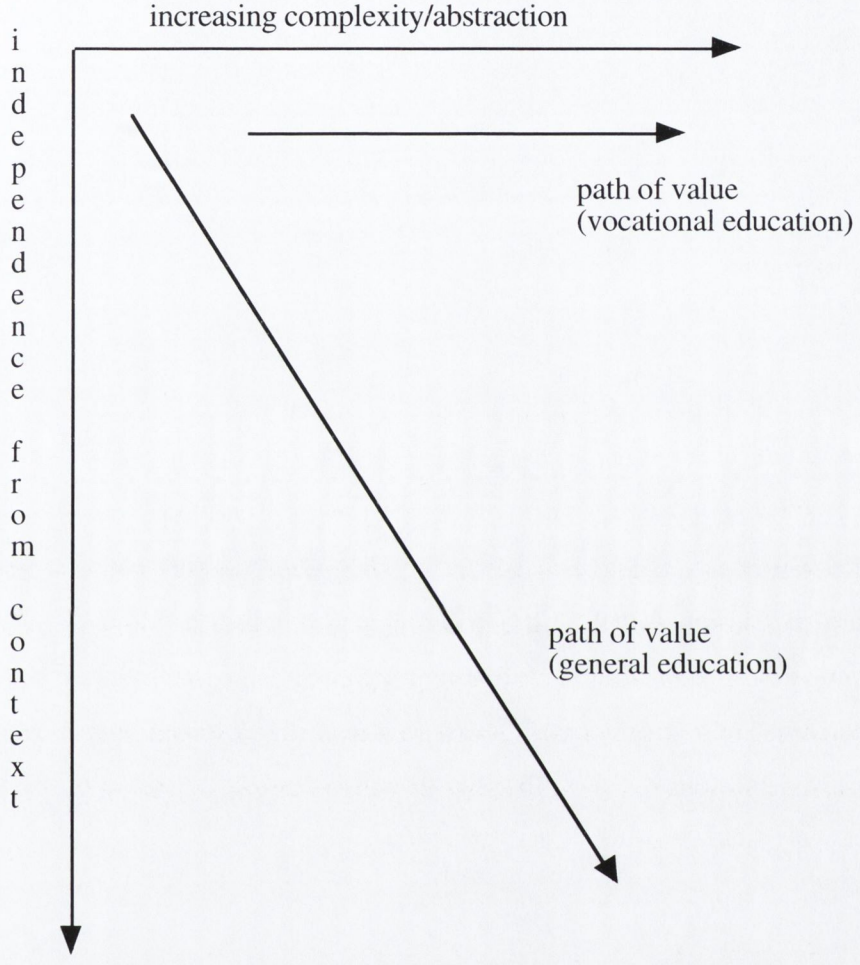

Figure 12.6 Paths of g(p) and v(p)

The variable "complexity/abstraction" is not a completely satisfactory term; the intention is

[8] P. Bourdieu, *The Logic of Practice*. The image of the "field" is one much favoured by Bourdieu, in particular, the *axon* or "field of power". Bourdieu is very taken by a remark of Bertrand Russell, proposing an analogy between energy and (social) power" "Like energy, power has many forms, such as wealth, armaments, civil authority, influence, or opinion. No one of these can be regarded as subordinate to any other, and there is no one form from which the others are derivative. The attempt to treat one form of power, say wealth, in isolation, can only be partially successful, just as the study of one form of energy will be defective at certain points, unless other forms are taken into account. Wealth may result from military power or from influence over opinion, just as either of these may result from wealth...Power, like energy, must be regarded as continually passing from any one of its forms into any other, and it should be the business of social science to seek the laws of such transformations', *Power: A New Social Analysis* (London: Allen and Unwin, 1938), pp. 12 - 14, cited in *The Logic of Practice*, p.235.

to indicate "difficulty" by pointing to two features of mathematics which appear to make it difficult to learn.

The diagram, as shown, does not permit a notion of usefulness to find expression. If this is introduced as a third dimension, perpendicular to the original two, we obtain the following:

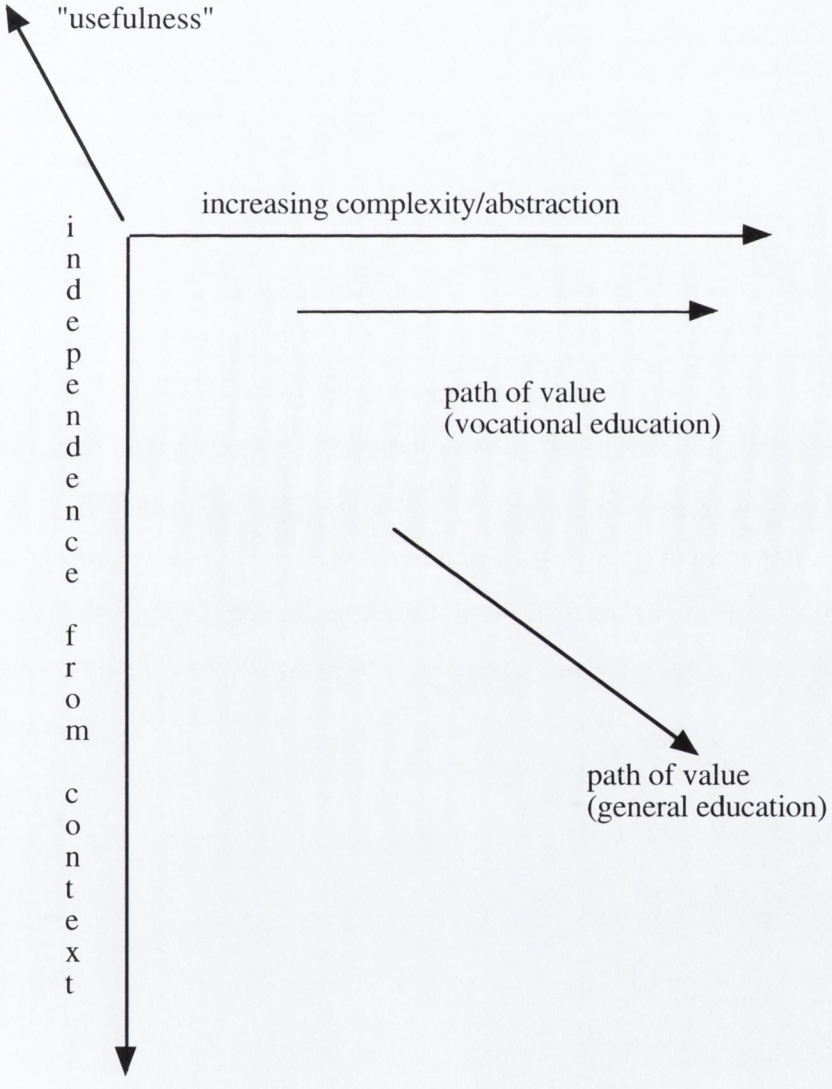

Figure 12.7 Adjusted Paths of g(p) and v(p)

The notion of usefulness is based upon a rather matter-of-fact criterion of use by the citizen, or, more narrowly, upon the "basic numeracy and general transferable skills" expectations of employers. In either sense, the use arises from the demands of being functional in contemporary society, a set of demands which may change over time. As has

been discussed, a considerable amount of policy discussion centres on such change, and how national education systems can meet the constantly increasing demands of technological society.[9]

The combination of the demands of functionality with a limited degree of complexity/abstraction would indicate a region of "high" usefulness around the origin. One way of representing change in the demands of functionality may be to see a growth in the usefulness region vertically downwards from the origin.

The universities and other third-level institutions permit only two ways ("functions") to assign formal value to knowledge. Given the experience of the Leaving Certificate Foundation course in mathematics, it does not seem likely that these bodies will provide new ways of valuing the knowledge of students who will not be permitted to enter these institutions. The NCVA is developing a system of national awards for vocational education, but it is not clear how the NCVA will certify the LCA, which is a Leaving Certificate course and part of the national provision for post-primary education; further, it is not clear in which sense the LCA is vocational education. Knowledge that is useful (in the sense used here) will go unrecognised, save for that distributed informally, personally, by the charismatic teacher. The persistence of the teachers' concerns that the LCA should be given some formal recognition of value is perhaps an indication that charisma is in short supply or is near exhaustion.

12.4 The Theory Effect

The participation by this author in the work of developing the materials for the Mathematical Applications modules of the LCA is characterised by a number of factors. There is an entitlement to be involved on the basis of a history of successful practice in the classroom, involvement in in-service, and syllabus development. The relation to the field of education is partially academicised due to a history of involvement as a lecturer in mathematics methodology in a university. The communication to the Project Manager of 15th August, 1994 is evidence of this. The attempts to hold on to both the structure and assessment process proposed in that document proved ineffectual, and the work of the development group was largely determined by directions from the Steering Committee. The

[9] See the discussion of policy issues above.

use of information technology permitted accurate copies of drafts of working documents to be kept. The use of a database possibly permitted the coding scheme of individual mathematical behaviours to persist longer than might have been the case had all documentation been hand-written or typed; in any case, these codings were removed at the behest of the Steering Committee. The refusal of the position of Development Officer may be open to a variety of interpretations. On one hand, it has been said that to accept the position would have compromised the representative function of this author on another committee, where oppositions between the policies of the NCCA executive and those of the teaching union this author represented might arise. On the other hand, such a refusal of the rather driven and open-ended practice of a Development Officer would permit this author to withdraw from the LCA once the materials had been written and write a thesis. Moreover, this author's participation was a personal one, unlike his participation in the NCCA Mathematics Course committee which was a representative one. Thus, in a sense, the LCA is a safer topic to write about, rather than the Leaving Certificate courses in mathematics, which if analysed, might have produced a social break with teacher colleagues and the teaching union as the penalty of which Bourdieu writes.[10]

[10] Pierre Bourdieu, Preface to *The Logic of Practice*, p. 8.

13 STRUCTURES AND RELATIONS

13.1 Introduction

Clifford Geertz, in a determined search for a methodology in social science that can make a heavily qualified claim to be scientific, sees a parallel, of sorts, with the medical practice of detailed observation ("thick description", as he terms it), followed by diagnosis.[1] This double task is intended to

> uncover the conceptual structures that inform our subject's acts, the "said" of social discourse, and to construct a system of analysis in whose terms what is generic to those structures, what belongs to them because they are what they are, will standout against the other determinants of human behaviour. In ethnography, the office of theory is to provide a vocabulary in which what symbolic action has to say about itself - that is, about the role of culture in human life - can be expressed.[2]

The second half of this double task consists of

> ...stating, as explicitly as we can manage, what the knowledge thus attained....demonstrates about the society in which it is found and, beyond that, about social life as such.[3]

The outcomes of this process, *interpretations*, are then offered for what Geertz terms "appraisal" by the procedures of the discipline of social science.[4]

Orville Lee sees Geertz's project as seeking to "grasp the social rather than the psychological foundation of meaning" by changing the locus of 'cognition' from the psyche to the social realm.[5] Still, Lee finds that Geertz is forced to impute a shared system of meaning to actors in a given society without being able to explain how it is possible that

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[1] Geertz, *The Interpretation of Cultures*, p. 27.

[2] Ibid.

[3] Ibid.

[4] Ibid. p. 16.

[5] Orville Lee III, "Observations on Anthropological Thinking About the Culture Concept: Clifford Geertz and Pierre Bourdieu", *Berkeley Journal of Sociology* 33 (1988), 117.

meaning is shared - that it is shared in varying degrees, being beyond dispute.[6]

In Chapter 1, *Methodological Considerations*, it was remarked that

> a key question is the nature of the link between the structure (strata) of society, the goals and actions of the power groups active in the strata, and the micro-processes, the interaction of agents active in the smaller system under investigation. If the link is to be *explanatory*, the behaviour at the micro-level must be related, in some manner, to the power-play at the macro-level. A variety of possibilities present themselves.[7]

It was concluded that if this link is constituted in the form of consistent relations, then the consciousness and intentionality of agents must be implicated, or alternatively, a pure determinism must be accepted as the driving mechanism of the *behaviour* which is taken to be the only observable data.

The perspectives of Drudy and Lynch, taken as representative of a structuralist approach, when compared with that of Bourdieu, differ in their views of consciousness and intentionality. For Drudy and Lynch, actors must be aware of what they do, and act in ways that objectively serve the interests of the power groups to which they belong. For Bourdieu, consciousness and intentionality are physically embodied in the set of dispositions (habitus) the agent acquires through both individual and collective history; the key relation being that between the dispositions and the objective structures of the world.

A stated objective of this thesis was to

> To present the empirical practice of the curriculum development project by means of documents and materials and to explore the relations between such practice (and agents' representations of it) and objective social structures.

- with the views of Drudy and Lynch available as an alternative explanatory perspective to that of Bourdieu.. A particular focus for such an explanatory contest, as it were, arises with the opportunity to view the construction of part of a course of study intended for a group of students which the education system in Ireland has failed to accommodate. Drudy and

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[6] Ibid.

[7] See above, section 1.1

Lynch characterise the provision of such courses as the recycling of the resistances of working-class students in the following terms:

> What is being suggested is that teachers' own class and power interests are bound up with recycling resistance into organisationally non-threatening forms. This is a conscious and deliberate exercise. Secondly, teachers' own credentialised status implicitly legitimates the education system with its semblance of impartiality and 'professionalism'.[8]

Bourdieu, by contrast, argues that the research into the education system he carried out with with Passeron, *Reproduction in Education*

> sought to propose a model of the social mediations and processes which tend, behind the backs of the agents engaged in the school system - teachers, students and their parents - and often *against their will*, to ensure the transmission of cultural capital across generations and to stamp preexisting differences in inherited cultural capital with a meritocratic seal of academic consecration by virtue of the special symbolic potency of the *title* (credential).[9]

An appraisal of the explanatory power of these perspectives is offered below.

The historical aspect of this work was motivated by two methodological considerations: firstly, the wish to chart the emergence of the object of enquiry as an official, public issue, a necessary step in the production of a study of the participant objectivation type; and secondly, the wish to establish an historical field within which the invariance of certain relations across time might be detected. The first consideration led to a characterisation of the emergence of mass participation in schooling in Ireland up to the age of eighteen years, and *of the measures taken for such provision*, as an expression of the changing relations of power between church and state, the changing relations themselves being part of a social movement driven by nationalism and industrialisation. This characterisation is worthy of further investigation, perhaps through the investigation of analogical cases, of which the most obvious might be the provision of health care.[10] The second consideration is addressed by the provision of synoptic diagrams below which are intended to represent the

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[8] S. Drudy and K. Lynch, *Schools and Society in Ireland*, p. 123.

[9] Preface to the 1990 Edition, in Pierre Bourdieu and Jean-Claude Passeron, *Reproduction in Education, Society and Culture*, ix.

[10] See the discussion above on the 'Mother and Child' scheme.

invariance of those relations (*homologies*) across time whose existence is hypothesised upon the basis of the historical review which has been undertaken.

13.2 Recycling Resistances or Reproducing Structure

The process of determining the mathematical content of the Mathematical Applications modules of the LCA programme has already been said in this work to have been as follows:

> One group of teachers attended a one day conference on 15th. December 1994 in Dublin. Another group met in Limerick. The initial purpose of the conferences was to familiarise those present with the philosophy and structure of the LCA, and the first presentation in each conference followed the lines of that given at the CSAI conference of October, 1994. The second issue addressed was the opportunity such a gathering provided to pool common experience of teaching programmes such as Senior Certificate, VPT1, and Foundation Mathematics (in both junior and senior cycles). In particular, the issue of what type of mathematical content was appropriate would be addressed...
>
> Here, then, is a description of one of the meetings of teachers which were held as part of the preparations for the development of the Mathematics Applications section of the LCA, and whose deliberations were assembled by the Development Officer as *Document 1*.
>
> The working atmosphere at the teachers' conference in Dublin was one of interest and curiosity.[11] After a presentation on the philosophy and structure of the LCA, discussion turned to what should be taught within the Mathematics Applications section. Issues of methodology were not addressed at length, but in passing, and seemed to function as a reminder or reassurance that all present were "of the same mind".[12] Many comments of this type were laconic or humorous, but not malicious. A constant theme was the continual necessity to build up and maintain the confidence of the students in their capacity to learn and be successful in Mathematics.[13]
>
> The business of the conference was conducted very briskly in "brainstorming" fashion, with colleagues suggesting topics and content with which they had experienced success with "this sort of student". The language used involved a professional "shorthand" when referring to mathematical material. The extent of topics was a matter of particular interest, with suggestions being queried with "How much? Up to where? Would that include ....?" When agreement was reached, the topic or content, limited as agreed, was noted. Many elements of a mathematical "life-skills" nature were suggested, ranging from telling the time in a variety of formats, to estimating the mass ("weight") and dimensions of objects and substances

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[11] Personal notes of 15th December, 1994.

[12] That is to say, it became clear that the teachers present believed that the students for whom the LCA was intended was a cohort with whose learning problems they were very familiar. The teachers present were nominated by their schools on the basis of their experience and success with such students.

[13] Personal communication from the Development Officer.

("a pound of sausages", "a bullock").[14] Some contributions were based on experience of the Senior Certificate mode of organising student work around themes ("planning the school trip"), or the weaknesses and gaps evident in the knowledge of the students, though only the mathematical content of the projects was recorded.[15] A recurring theme towards the end of the conference was the concern that external assessment by the Department of Education at the end of the LCA programme would match what the students had been taught.[16]

There can be little doubt that what is being prepared for the LCA cohort of students is the set of mathematical knowledge and skills that students thought to be like them had successfully acquired with the assistance of experienced teachers. In what ways might this process be described, after Drudy and Lynch, as the "recycling of working-class resistances" ?

If students had already possessed, before any teaching took place, the skills and knowledge which assessment detected at the end of the teaching cycle, then the students' resistance to schooling (exhibited in all the forms that lead to a total disengagement from the teaching-learning process) could be said to have determined what the assessment revealed, once such students took part as best they could in the assessment process. The same effect would be produced in the limiting case of instruction that is effectively useless. If the skills and knowledge revealed by assessment are then constituted as a course of studies, then students' resistances are being recycled.

If students' resistances take the form of behaviour that disrupts the teaching-learning process so that in any given time period the knowledge and skills which might have been otherwise learned is lessened to that quantum which is then established as a course of studies, then what is being recycled is a product of *both* the effectiveness of the teaching and the resistance of the students. In this case, however, some learning has occurred.

Other variants, which may be closer to Drudy and Lynch's intentions, may be obtained by making a distinction between that knowledge and skill which is *practically* held, may not (yet) be capable of verbal expression, and which may be denied any possibility of demonstration in the environment of the school, and that knowledge and skill which is

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[14] Ibid.

[15] Personal communication from the Development Officer.

[16] Personal communication from the Development Officer.

capable of such demonstration. This variant seems to place the origins of resistances in the frustration experienced by students whose accomplishments find no recognition in school, or whose capacities are hidden by an inability to describe task solutions using the elaborated codes favoured by school and by the lack of provision of opportunities to *do* rather than to *talk* or to *write*.

In the case in question, the discussions at the teachers' conferences proceeded on the basis that learning could take place in school, and that within the time available, students could made progress in acquiring new mathematical knowledge and skill. Short methodological remarks and other comments seemed to serve as "calls to order" that all present were talking about the same kind of teaching-learning process. The reiteration of references to the "self-confidence" issue seem to serve as a marker of such classroom practice, because of the need to constantly encourage the students, while recognising that a moment of pure refusal will eventually come.[17] In Bourdieu's terms, such teachers, through an explicit and rational pedagogy, seek to change the habitus, the universe of the possible for these students. One danger apparent from these remarks is that the programme of work put together by the conference may have exceeded the pedagogic abilities of less experienced teachers.

It is not being claimed that the teaching of the Mathematical Applications modules of the LCA programme in the schools of Ireland has the explicit and rational character described here - the acquisition of such a character to pedagogy took this author at least ten years of practice, with the help of special in-service, meetings, and conferences. It is not disputed here that in objective terms the effect of such practice may well be to socialise many students into the acceptance of positions in a social hierarchy based on academic credentials - though the positions might be more elevated than might have otherwise been the case. It is disputed here, however, that the determination of the content of the Mathematical Applications modules of the LCA programme was a conscious and deliberate exercise in promoting the class and power interests of the teachers involved.

The areas of experience the teachers called upon in putting together the inventory of mathematical content of the course clearly included those concerning work and social life, as well as the demands of VPT and CERT vocational courses already running in schools. In

[17] From discussions with colleagues the topic of the solution of simultaneous equations seems to be a popular choice as the *ne plus ultra* for such students.

this sense, the inventory appears to be an attempt at an operational definition of the set of mathematical skills required for functioning in modern life and participation in vocational education and training, tempered to a degree by what has been termed in this work as the limit of what the students could bear to learn. This formulation is consonant with Bourdieu's concept of habitus as a disposition to limit the possible on the basis of a sense of what is appropriate to the individual. However, the point of interest here is that the teachers could agree the content of the LCA course on the basis of their analysis of the requirements of both life and school and their experience of students' reactions to particular material. What is the origin of such regularity? The examination of the behaviours carried out in Chapter Twelve of this work concluded that

> An examination of the material given in Appendix B, "The mathematical content of the LCA course as proposed by meetings in Dublin and Limerick of teachers involved in the vocational specialisms, organised under a variety of headings, and distributed over the two years of the programme", reveals mathematical material which is mainly practical and oriented towards a variety of everyday tasks which face the citizen. One feature of this material is the degree to which it is oriented towards a world of instruments, gauges, and units; and towards the interpretation and production of information given in tables, charts, and design drawings. The contexts are those of homes, business, travel, and employment. Elements of complexity enter in with tax calculations, and the estimation of area using Simpson's Rule. More formally, the treatment of statistics extends to the estimation of the median from a cumulative frequency curve. Taken as a whole, the material represents a body of material which was either considered to be of general use and application (that is, having the character of general education), or of a more complex or formal nature; all of the material being considered, upon the basis of practice, to be capable of being mastered by the students. The term "mastered" refers here to the "all or nothing" character of the learning style of students in "such" programmes.[18]

The reader is invited to assess the accuracy of this analysis, for this is claimed to provide an unforced correspondence between the mathematical content of the LCA and those generic skills, described earlier in this work by Gellner as

> ..."literacy, numeracy, basic work habits and social skills, familiarity with basic technical and social skills", and are intended to be acquired and internalised by students as the "basic idiom, ritual and skills" common to industrial society.[19] The notion of generic skills is based upon a modern conception of work, not as the manipulation of things, but the manipulation of meanings and of people.[20]
>
> It generally involves exchanging communications with other people, or manipulating

[18] Section 12.3, Chapter Twelve.

[19] E. Gellner, *Nations and Nationalism*, p. 27.

[20] Ibid., pp. 32 - 33.

> the controls of a machine. Most jobs, if not actually involving 'work with people', involve the control of buttons or switches or levers which need to be *understood* and are *explicable*, once again, in some standard idiom intelligible to all comers....Explicit and reasonably precise communication becomes generally, pervasively used and important.[21]
>
> Characteristic of such communication is that *it may be with people one does not know*, a feature which emphasises the importance that such communication should not have the character of local communication, in which "context, tone, gesture, personality and situation" are everything.[22] Explicitness is everything when communication is not local....[23]

While such a correspondence may explain why the conference of teachers, alert to the question of what sort of mathematical knowledge might be required in the life of the citizen, might select such knowledge and skills for the LCA course, it does not seem to constitute a satisfactory explanation of the apparent regularity of the students' positive responses to opportunities to learn this material. The reason for this lack of satisfaction may well lie in the ultimately intellectualist bias of a commitment to consciousness as the sole determinant of behaviour. The teachers choices are conscious and focussed on the issue (we will include this because..., we will exclude that because...) because of the need to *write down* their conclusions so as to communicate them to colleagues not present. The students may have their engagement in class activity shaped by their dispositions, but may not *think* of these issues in the terms of conscious choices (I will not learn simultaneous equations because...). The character of dispositions arises from life history and the primary socialisation of the family, particularly in language use, and is possibly further shaped by the students' possession of mathematical knowledge and skill in its *practical* state on the basis of common life experiences, or is already being demanded in the course of the part-time jobs many students have, or is known to be used by others in workplaces. While these may be necessary causes, they do not appear to be sufficient to produce that state of affairs in which the students are prepared to appropriate the formal expression of such practical knowledge and skills, to accept the *naming* that teachers offer in the interactions that constitute the ZPD, that locus of possible change in habitus.

In conclusion, it may be remarked that this discussion reveals the difficulties some teachers

[21] Ibid., p. 33.

[22] Ibid.

[23] Ibid.

may experience through a sympathetic engagement with those students who face the dilemma of the dominated, characterised earlier in this work by Bourdieu:

> ...theories of resistance (e.g. Giroux 1983, Scott 1990) often forget that the dominated seldom escape the antinomy of domination. For example, to oppose the school system, in the manner of the British working-class "lads" analysed by Willis (1977), through horseplay, truancy, and delinquency, is to exclude oneself from the school, and, increasingly, to lock oneself into one's condition of dominated. On the contrary, to accept assimilation by adopting school culture amounts to being coopted by the institution. The dominated are very often condemned to such dilemmas, to choices between two solutions which, each from a certain standpoint, are equally bad ones (the same applies, in a sense, to women or to stigmatised minorities).[24]

In short,

> Resistance can be alienating and submission can be liberating. Such is the paradox of the dominated and there is no way out of it.[25]

13.3 Homologies and Invariance

The complexity of Bourdieu's theory of the relationship of habitus, field, and social structure is such that in reading Bourdieu the present author has been forced at times to express these relationships in mathematical, and, in particular, *geometrical* form, in an attempt to comprehend them. Bourdieu remarks, in the course of a workshop for researchers, that

> Instead of giving a formal exposition of the notion of structure in modern mathematics and physics and on the conditions of applicability of the structural mode of thinking to sociology, as I used to do twenty years ago (this was undoubtedly more "impressive"), I will say much the same thing but in a practical form....[26]

In discussing the book *Distinction*, Bourdieu remarks that distinction is a gap, a distinctive feature, a relational property existing only in and through its relation with other

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[24] P. Bourdieu and Loïc J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 82.

[25] Ibid., p. 24, citing P. Bourdieu, *Choses dites* (Paris: Editions de Minuit, 1987), p. 184, translated by Loïc J. D. Wacquant.

[26] P. Bourdieu, "Structuralism and Theory of Sociological Knowledge", Social Research 35, no. 4 (Winter), cited in P. Bourdieu and Loïc J. D. Wacquant, *An Invitation to Reflexive Sociology*, p. 222.

properties. He continues:

> The idea of difference, or a gap, is at the basis of the very notion of space, that is, a set of distinct and coexisting positions which are exterior to one another and which are defined in relation to one another through their mutual exteriority and their relations of proximity, vicinity, or distance, as well as through relations of order, such as above, below, and between. Certain properties of members of the petit-bourgeoisie can, for example, be deduced from the fact that they occupy an intermediate position between two extreme positions, without being objectively identifiable and subjectively identified either with one or the other position.[27]

This space of social positions is turned ("retranslated") into a space of position-takings (styles, tastes, consumption of certain goods etc.) "through the mediation of the space of dispositions (or habitus)." [28] The habituses are related (by history, upbringing, and in modern society particularly the school) to a person's position (A, B, C, etc) in social space.

Bourdieu seems to say that there are certain relations between the *positions* of agents in social space that reappear (are invariant) between the *behaviours* ("position-taking") of agents in differing fields of activity. For example, the in-between-ness property, which is claimed to keep the *behaviour* (taking a certain position: exhibiting a style, expressing a certain taste, or consuming certain goods etc.) of agent B (in the position of the petit-bourgeois, say) in between (or at least different) from that of agent A (the position of a member of the most dominant social class) and from that of agent C (the position of a member of the most dominated social class). An entirely rigid determinism does not appear to be intended by Bourdieu in his theory: the behaviour of an agent is *mediated* by a *disposition* whose character is *related* to the social origins of the agent (and shared, in varying degrees, by other agents with similar social origins).

Presumably the persistence of such structural relations as in-between-ness is due to the action of habitus, which, arising from the individual being born into a family in a certain position in social space, is marked by this experience and is sensitive to signs of social distinction. The capacity of the habituses to preserve and reproduce structural relations between the positions of agents in social space and the relation between the behaviours of agents is altered to the degree that habitus can be altered. For reproduction theorists, the

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[27] P. Bourdieu, *Practical Reason* (Cambridge: Polity Press, 1998), p. 6.

[28] Ibid.

degree to which the character of habitus is reinforced, is made stable, by the force of judgments that are made from outside the family and have the social force of official judgments (credentials), the more the education system reproduces the structural relations of social space. The capacity of the education system to alter habitus appears to be a function of the force or coercion required to change the intimately and locally formed character of the habitus into something else. For Bourdieu, the options appear to be either to change habitus$_X$ into habitus$_Y$, where X and Y represent different positions in social space; to maintain habitus$_X$ as habitus$_X$, or to change habitus$_X$ into one of the scientific or aesthetic dispositions ("fundamental modes of constituting reality") which, in the limit, are capable of grasping the universal. Bourdieu's analysis of elite schools in France leads him to conclude that historically the "nobility of the robe" has systematically replaced the justification of privileges as "natural" and due to birth (position in the social space), by the justification of privileges as "natural" and due to academic achievement. The function of the elite school is to ensure the legitimacy of succession to elevated positions in the scientific and aesthetic fields from one generation to the next.[29] In later works, Bourdieu uses the term *conatus*, a term of Spinoza's, referring to an organism's attempt to persist in its own being. The operational effect of habitus might then be seen as an "active inertia", a formulation which seeks to capture Bourdieu's emphasis on habitus as a structuring and structured structure. Set in these terms, the attempts of teachers to change habitus might be seen as being resisted by the inertial tendency of habitus to persist in itself - a phenomenon which, in a cognitive context, has been described by Piaget as *equilibration*.

Bourdieu's insistence, in the face of common-sense substantialism, that the "real is relational" is shared, in part, by Geertz with his dismissal of literalism:

> The strange idea that reality has an idiom in which it prefers to be described, that its very nature demands we talk about it without fuss - a spade is a spade, a rose is a rose - on pain of illusion, trumpery, and self-bewitchment, leads on to the even stranger idea that, if literalism is lost, so is fact.[30]

Geertz's conviction that ethnography is neither "an iniquitous act nor an unplayable game" is established at the cost of the claim to realism, through the ambiguous admission that "like

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[29] P. Bourdieu, *The State Nobility: Elite Schools in the Field of Power*, trans. Lauretta C. Clough (Cambridge: Polity Press, 1996).

[30] Clifford Geertz, *Works and Lives - The Anthropologist as Author*, p. 140.

quantum mechanics or the Italian opera, it is a work of the imagination, less extravagant than the first, less methodical than the second"; and in the abandonment of literalism.[31] For Bourdieu, such "work of the imagination" is constituted in those "fundamental modes of constructing reality" - such as the aesthetic and the scientific modes.[32]

An implication of the relational perspective for a work such as the present one is that emphasis should be placed on the fact of distinction (specific provision of distinct courses of education, for example) rather than on the specific details out of which the distinctiveness is constituted.

> In short, one has to avoid turning into necessary and intrinsic properties of some group...the properties which belong to this group at a given moment in time because of its position in a determinate social space and in a determinate state of the *supply* of possible goods and practices. Thus, at every moment of each society, one has to deal with a set of social positions which is bound by a relation of homology to a set of activities...or of goods...that are themselves characterised relationally.[33]

"A relation of *homology*" is a term with a mathematical meaning, referring to the relation between a set of points and its image under a *projective* transformation. The specific effect that Bourdieu appears to want to capture from the mathematical context is that the relation of homology arises from a *dual perspective*.

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[31] Ibid.

[32] P. Bourdieu, *Practical Reason* (Cambridge: Polity Press, 1998), p. 137.

[33] Ibid., pp. 4 - 5.

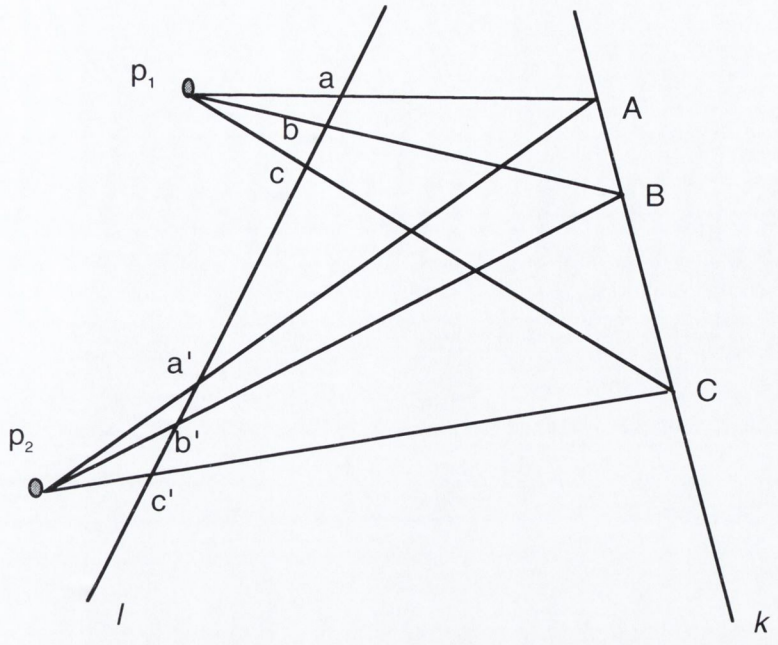

Figure 13.1 Homology

In the diagram, a homology *H* maps a to a', b to b', c to c'. The *relational* aspect of the homology presumably would consist of the properties that are invariant under the action of *H*. This is to say that the relationship of a to a' is not particularly of interest; the fact that b is "in-between" a and c, and that b' is "in-between" a' and c' is of interest: it suggests that the property of "in-between-ness" may be invariant under *H*. Note that the homology depends upon the two lines *l* and *k* (in fact these are planes) and the positions of the two points of projection, p_1 and p_2. The usual sequence which establishes the homology is as follows: the points a, b, c on the line *l* are projected from p_1 onto the line *k* to produce A, B, C. The projective lines from p_2 to A, B, C cut the line *l* at a', b', c'. The homology then relates a to a', b to b', c to c'. What Bourdieu may be taking from this context as contributing to a model of social structure and relations might be expressed as follows: if p_1 represents the point of perspective from which the positions in social space of three agents are given as the points a, b, c, then corresponding to these social positions are the habituses A, B, C. If these three agents are viewed from the point of perspective p_2 representing, say, patterns of consumption, then what *directly* regulates the position (behaviour) of a', b', c' on *l* are the habituses A, B, C, and not their antecedents: a, b, c.

The question arises as to why the notion of homology should be thought to be adequate to the reality social science wishes to investigate. The crux of this issue lies with the idea of

Durkheim and Mauss, as adapted by Bourdieu, that many mental (and motor) schemata are to be treated as the physical embodiment of social divisions, rather than the direct expression or reflection of them, or as the attributes of sufficiently alert and autonomous existential agents. The regulatory (rather than directing) role ascribed to the habitus permits fuzzy and contradictory aspects of behaviour to be accommodated in the model, while the formation of the habitus over time through family socialisation permits both the possibility of shared patterns to behaviour, "affinity of style", based on similarities in upbringing and other collective histories, and individual variations, based on differences. Moreover, unlike Geertz, who finds the *adequacy* of instruments of thought to the reality they are used to examine to be a sufficiently demanding criterion[34], Bourdieu clearly wishes to produce hypotheses capable of being tested, but at a level of *structural relations* and not superficial appearances.

What follows then, are two attempts to express invariance under homology within time, and within the social space, using the materials set out in this work.

13.4 Invariance under Homology within Time

The two forms of distinction examined here are Church and State and Male and Female.

The distinction between Church and State has been examined in this work in terms of a contest for pedagogic authority - the right to teach. An aspect of the introduction of Continuation education which was considered significant at the time was the provision of education by the State to young people who were not considered to be adult. The sense of the term adult used here is that of being fully formed in the practice of religion, or at a stage where religious and cultural socialisation is complete. Technical education, by virtue of its specifically vocational character *and the age after which it took place*, 16 years, was considered not to impinge upon the pedagogic authority of the churches, and took place in institutions administered by the State. The discussions at that time between the minister for

[34] "The inadequacy of words to experience, and their tendency to lead off only into other words, has been something both poets and mathematicians long have known; but it is a new discovery so far as ethnographers are concerned, and it has put them, or some of them, into something of a disarray, perhaps permanent, probably not". Clifford Geertz, *Works and Lives - The Anthropologist as Author*, p. 138.

education and the hierarchy, that is, at the highest level, reveal the efforts of the parties to establish the distinctiveness of Continuation education and the schools in which it took place. The contour represented by these marks of distinction might be thought of as representing the border between the pedagogic authority (or social power) of the churches and the State.

Each stage of general education to which a student advanced appears to have been seen as appropriate to certain positions in life, and each stage of technical education to which a student advanced would likewise have a bearing on the positions in the industrial hierarchy of employment open to the student. These marks of distinction may be thought of as contours of social life representing the borders between types of employment based upon the possession of technical or cultural competence.

The contemporary provision of education is such that a secondary school owned by a church body or religious order may offer an education which encompasses not only the LCA course but the first phase of specifically vocational education in the form of PLC courses. Other such schools may offer neither the LCA nor PLC courses. The diagram below shows the contrast between previous provision and contemporary provision, as well as a representation of the recommendations of the Culliton Report. The shaded regions represent areas of educational provision (including apprenticeship) which are or were controlled solely by the State. White (unshaded) regions represent areas of educational provision which are controlled primarily by religious bodies. Dark shaded regions represent areas of educational provision which may currently be controlled by either religious or State bodies.

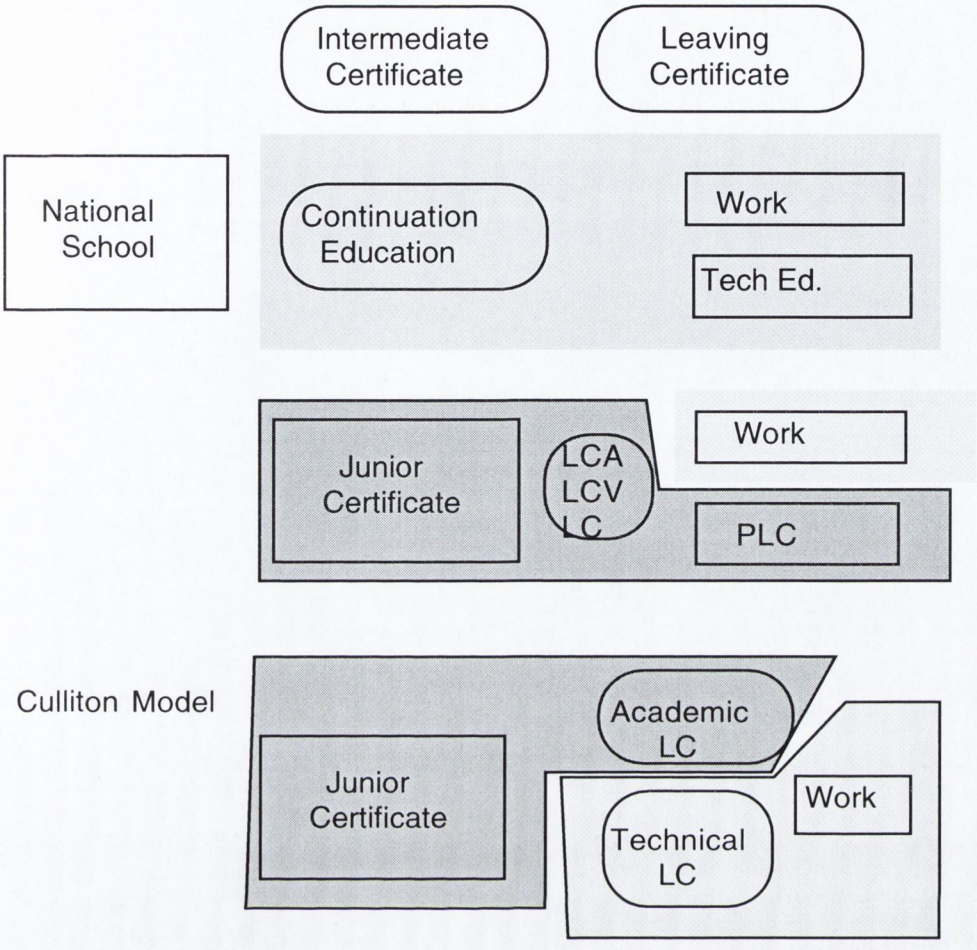

Figure 13.2 Previous and Contemporary Provision of Education

The most striking aspect about the foregoing diagram is the degree to which a sharply marked border between two regions has been replaced by one region characterised by a lack of distinction between certain secondary schools and the community schools, and the vocational schools, which offer all of the post-primary programmes. An interesting feature of the diagram representing the Culliton proposals is that a sharply marked distinction persists within the post-primary period.

The blurring of distinction represented in the diagram has been interpreted in this work as a form of secularisation (characterised by clientism) of that section of the education system formerly and exclusively controlled by religious bodies. The top diagram, representing the state of affairs in the 1930s and onwards, has a boundary which the religious authorities wished to enforce. The diagram showing the Culliton proposals shows a secularised region and a region from which the religious authorities might have been *de facto* excluded; a

situation quite the reverse of that shown in the top of the diagram. The figure below represents the change over time from discrete groups of institutions under the control of church or state, to a continuum of institutions under relative degrees of influence of church and state.

1945

Churches	State
National Schools	
Secondary Schools	Continuation Schools
Teacher Training Colleges	Technical Schools

1995

Churches	State
National Schools	
Secondary Schools (no LCA, no PLC)	
Secondary Schools (state clientele)	
Community Schools (state clientele)	
Comprehensive Schools (state clientele)	
	VEC Schools
Colleges of Education	Institutes of Technology (RTCs)

Figure 13.3 Church and State Control of Education

Turning now to the issues of gender distinction and social distinction, it may be observed that *within* the secondary school *circa* 1945, gender opposition was expressed in the provision for girls of a greater number of courses in mathematics within the Intermediate programme.[35] Within the Continuation school of the same period, the opposition is expressed in the relation of the Domestic to the Technical, and in the opposition of Arithmetic to Mathematics. It would appear that the gender opposition is more sharply marked in the Continuation school. These relations are shown in the diagram below, with gender distinction running horizontally and social distinction running vertically.

[35] What is examined here are differences at the level of national provision. The subjects which were offered to students of different gender and those subjects which were chosen at the level of the school is not examined here.

Secondary School -Intermediate Cycle

Male	Female
Mathematics Honours/Pass	Mathematics Honours/Pass/Alternative

Vocational School - Continuation Education

Male	Female
Technical Course Mathematics	Domestic Science Arithmetic

Figure 13.4 Gender Distinction in Mathematics (1930s)

The contemporary system of provision does not appear to make gender distinctions but solely social distinctions, as shown below in the case of mathematics, *between* the LC and LCV programmes on one hand, and the LCA programme on the other.

Post-Primary School - Leaving Certificate

Male	Female
Mathematics Higher/Ord/Foundation	Mathematics Higher/Ord/Foundation

Post-Primary School - LCV

Male	Female
Mathematics Higher/Ord/Foundation	Mathematics Higher/Ord/Foundation

Post-Primary School - LCA

Male	Female
Mathematical Applications Modules	Mathematical Applications Modules

Figure 13.5 Gender Distinction in Mathematics (contemporary)

It may be observed that contemporary provision contains a contrast between a variety of programmes (Higher, Ordinary, Foundation) and a distinct programme (Mathematics Applications). This would appear to resemble more the contrast between the provision of mathematics education for secondary school girls and that for vocational school girls in the previous period. This resemblance is evident elsewhere.

The Conference of Convent Secondary Schools made proposals, in the period 1945 and after, that a "real life" programme (as opposed to what was clearly viewed as a masculine and academic course) was required for the majority of secondary school girls , and that the issue of Continuation education (the vocational education of non-adult students) might be addressed by the provision of an education given in separate "blocks" on secondary school premises. These proposals are summarised in the following diagram.

1945

Academically dominated fraction of convent secondary school girls	---------->	Proposed Alternative Leaving Certificate programme preparing for "real life" (as wife and mother), provided within the secondary school.
Socially dominated fraction of students in vocational education	---------->	Continuation education in separate schools. Technical education in separate schools.
Socially dominated fraction of students in vocational education: proposed accommodation within the secondary school	---------->	Continuation education in separate buildings on secondary school site. Vocational education later in separate VEC institutions.

Figure 13.6 Socially and Academically Dominated Fractions (1945)

Contemporary provision has the character shown in the diagram below in schools which offer all of the programmes of post-primary education.

1995

Academically dominated fraction of post-primary school students	---------->	Alternative programmes preparing for "real life" occupations and further education and training. LCV students mainly educated with Leaving Certificate students. LCA students in separate class groups.

Figure 13.7 Socially and Academically Dominated Fractions (contemporary)

One way of viewing the relations expressed in the foregoing diagram is to hypothesise the provision of a "spread" of courses (within what is viewed as a continuum) as a response to cultural differentiation *within* a social group, while the provision of a course which is clearly distinct from a continuum of other courses may be seen as a response to differentiation *between* social groups. The objective character of this "continuum", that is, its genuine *continuity*, is a matter for investigation, particularly at the transition zones between regions, but a common feature identified with regard to school mathematics is that the courses should be perceived to have some kind of *abstract* character typical of an elaborated code. The inability to engage with such elaborated codes of abstraction may appear to produce the requirement that a distinct course be provided, but the absence of the ability to manage the elaborated code may be associated with a *social division* and associated patterns of upbringing, socialisation, and linguistic use. The case of schools mathematics may be extreme because of the extensive use of *symbol systems and concepts* whose correct use requires extensive socialisation in order to protect the unambiguity of both symbol and concept. To whatever degree the coherence of *school mathematics* is under question as *mathematics*, the *social* consequences of demanding the degree of socialisation the discipline demands may be becoming too great, in exposing a passing knowledge of the subject as no real knowledge and thus differentiating out fractions of social groups whose social solidarity (community of interest) is threatened.

14 THE LANGUAGE OF MATHEMATICS

14.1 Introduction.

This author, as an educationalist in practice, is *interested* in how the outcomes of this research may contribute to forming models of effective practice which are capable of implementation within the highly constrained field of teaching in school, and can be directed towards making available to particular school students (represented here by the LCA students) access to that scientific mode of constructing reality offered by mathematics. This project shapes the view of the language of mathematics given here as the conclusion to this work.

14.2 Language Use, Literacy, and Communication

The defining characteristics of the target group for the LCA were said to be derived from the characteristics of students who, both from the view of policy makers and the students themselves, had failed to find the traditional Leaving Certificate programme satisfactory. This dissatisfaction arose, it is said, partly because "the Leaving Certificate course neglected practical subjects, and was bookish, engendering a passive, spectator-like attitude amongst students".[1] These reasons make an interesting and combative list: that which is bookish and passive is contrasted with that which is practical, active, and participative. Heretofore in this work the barriers to participation in the traditional, academic curriculum have been said to be a lack of cultural capital (in Bourdieu's formulation), or a mismatch of "interests and culture" (in Drudy and Lynch's formulation). Moreover, in this new formulation, the LCA Project Team Manager chose to use the contemporary orientation of international policy towards the attainment of outcomes of educational systems as a means of questioning the continuing validity of the traditional Leaving Certificate. However, unlike Bourdieu and Passeron, whose analysis of post-primary schooling explicitly opposes competence to culture, the approach taken by the LCA Project Team Manager focuses on the features of the traditional course (and this includes much of the LCVP) which the target LCA cohort of students had found difficult.

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[1] These quotations are taken from remarks of the Project Team Manager of the LCA, at the IACD conference of 15th October, 1994.

Of interest here is the emphasis on *language*. The traditional Leaving Certificate was too "language orientated", the LCVP would also be "too language orientated", the students had "little competence at the Irish language", and, perhaps resulting from all these features, currently obtained "less than five D grades at Ordinary level".[2] What might this mean? An examination of the English/Communications modules may be an instructive step in identifying how the LCA was to avoid the language related difficulties of the other courses. The details of the English/Communications modules were not known to the development group at the time it was developing the course modules for Mathematics Applications.

English/Communications is set within Vocational Preparation.[3] The Communications section (Communication and Enterprise) is intended to enable students to "...apply communication skills through the transactions of enterprise." [4] The English section (Critical Literacy and Composition) is intended to "...foster in students a mature and critical literacy".[5] Amongst the learning outcomes are listed: (under Poetry), "apply critical terminology: theme - mood/atmosphere - sound: rhythm, rhythm, repetition - figurative language: pictures and comparisons"; and (under Short story), "apply the following critical terms: theme - setting - characterisation - climax - narrative voice".[6] Is it the case that the special status of English as natural language permits it to inform and support all areas of the programme, *and*, in addition, become an object of study in its own right, though described as Vocational Preparation ?[7]

The programme for English/Communications sets out two aspects to the development of the students' use of natural language: on the one hand the activities, styles, and manners of oral and written English used in business and other enterprises; on the other hand, the acquisition of the skills and knowledge that constitute a "critical literacy". Turning to

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[2]Ibid .

[3]NCCA/An Roinn Oideachais, *Leaving Certificate Applied, English and Communication* (Dublin: NCCA/An Roinn Oideachais, n. d.). See Appendix L.

[4] Ibid., p. 2.

[5] Ibid., p. 8.

[6] Ibid., pp. 8-9. Is this not General Education rather than Vocational Preparation ?

[7] What is extraordinary is the lack of any documentation supporting or explaining the design of the LCA. This is not a new phenomenon: see Denis O'Sullivan, "The Ideational Base of Irish Educational Policy", in *Irish Educational Policy - Process and Substance* ed. D. G. Mulcahy and D. O'Sullivan (Dublin: Institute of Public Administration, 1989), pp. 219 - 274.

mathematics, is it the case that the students following the LCA are not at ease, not "fluent", are not familiar with enough mathematics as a basis, a *vernacular*, with which to begin and sustain activity within a vocational or pre-vocational context, yet will reject as childish "typical" instruction required to provide such a basis?

A difficulty in the foregoing discussion arises from the use of the term "natural", as in "natural language". Children who cannot speak in a sufficiently efficient way to permit communication within the terms expected by the school are judged to fall into the realm of the speech therapist or the remedial teacher, and the techniques of physiology or language development and enrichment. The abilities of reading, writing and spelling in a sufficiently efficient manner are perhaps seen as less "natural" accomplishments, and those students who are severely affected are likely to receive remedial and compensatory help by being taught what others have apparently "caught" or "inherited". In such work with older students, a consistent difficulty for the teacher is the provision of materials which match the age and interests of the learner. What of mathematics? There does not seem to be a great deal in mathematics that is seen to be natural. Elementary arithmetic is perhaps a better candidate, though the notion of naturalness may come from its association with the primary school and notions of childhood. However, attempts to address deficits in the knowledge of arithmetic of older students may be as difficult as any other area of remedial or compensatory education. Hence, perhaps, the hope of the Assistant Chief Executive of the NCCA that vocational or pre-vocational contexts might address issues of motivation, by providing the current, the existential project, that would move the student along.

A tension between local, motivational contexts and a national universal syllabus finds expression in the issue of assessment. Part of this author's contribution to the discussion of mathematics in the LCA had centred on the students gaining gradual access to the "context-free" use of mathematical knowledge; a conspicuous advantage of which is that it is in precisely this form that external forms of national assessment tend to be cast. On the other hand, the Assistant Chief Executive of the NCCA had remarked that

> Mathematical material might be revisited, as in a spiral, as the students moved from theme to theme in a natural, organic manner. This approach would also facilitate closer integration with Vocational Preparation and Guidance and with General Education, providing motivational investigations in each of these elements.[8]

[8]See above.

The use of the term "spiral" is of interest. The "spiral curriculum" is a term coined in 1960 by Bruner:

> the idea that in teaching a subject you begin with an "intuitive" account that is well within the reach of a student, and then circle back later to a more formal or highly structured account, until with however many more recyclings are necessary, the learner has mastered the topic or subject in its full generative power.[9]

It should be appreciated that Bruner's curricular proposals arose from those "changes in both circumstances and knowledge" associated with generational change, and the "constraints and opportunities" such changes provide.[10] One of these changes is the *increasing rate of change* in contemporary society.[11] Bruner had argued then that

> If there is any way of adjusting to change, it must include, as we have noted, the development of a metalanguage and "metaskills" for dealing with *continuity in change*.[12]

It seems as if the two uses of the term "spiral" are different. The usage of the Assistant Chief Executive of the NCCA seems to indicate that mathematical material is encountered as the student moves from theme to theme. The themes are to be familiar and vocational in character. As the student progresses through the two years of the programme, the mathematics may become more complicated, but is always motivated by the context of the theme. However, he had continued

> From the perspective of the Steering Committee representatives, the issue of context was *primary*. Given a particular context (preferably a vocational one), what constituted a reasonable inventory of mathematical procedures embedded in the context? What would a person doing *this* need to know?

What of understanding? The *understanding* intended here by the Assistant Chief

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[9] J. S. Bruner, *The Culture of Education*(Cambridge, MA: Harvard University Press, 1996), p. 119. The resulting perspective is, of course, the Vygotskian "higher view".

[10] J. S. Bruner, *Towards a Theory of Instruction*(Cambridge, MA: Harvard University Press, 1966), p. 22.

[11] Ibid., p. 23.

[12] Ibid., p. 35. Emphasis added.

Executive of the NCCA is possibly that described by Rogoff and Lave[13] , and as such does not participate in what appears to be understood as general education, that is, "understanding of concepts". Moreover, the instruments to be used for the assessment of this understanding consisted of the external assessment whose "backwash effects" were seen as problematic and directed away from the local, and the Student Report, which was to refer directly to the whole nature of the student's engagement in a task and the *communication* of that process and outcomes.

Communication requires *language*, an element already identified as problematic for the LCA cohort by the LCA Programme Manager, but, as a concept, not yet fully unpacked in the discussion given here. Sapir argues that

> It is quite an illusion to imagine that one adjusts to reality essentially without the use of language and that language is merely an incidental means of solving specific problems of communication or reflection. The fact of the matter is that the real world is to a large extent unconsciously built up on the language habits of the group...We see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation.[14]

Basil Bernstein, in tracing the line of descent of his own thought from Durkheim and Sapir, quotes the latter's view of the controlling influence of language on culture as shaping, in part, his investigation of the relation between the formal patterns of speech and the structure of social relationships. Bernstein's categories of a restricted code of speech and an elaborated code of speech are said to be distinguishable both linguistically and sociologically: The restricted code

> arises in a small-scale, very local social situation in which the speakers all have access to the same fundamental assumptions; in this category every utterance is pressed into service to affirm the social order.[15]

The elaborated code is employed

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[13]See Chapter Nine.

[14] Basil Bernstein, "A Socio-Linguistic Approach to Social Learning", in *Penguin Survey of the Social Sciences* (London: Penguin, 1965), cited in Mary Douglas, *Natural Symbols* (London: Penguin, 1973), p. 42.

[15] Mary Douglas, *Natural Symbols* (London: Penguin, 1973), p. 43.

> in social situations where the speakers do not accept or necessarily know one another's fundamental assumptions. Speech has then the primary function of making explicit unique individual perceptions, and bridging different initial assumptions.[16]

Bernstein argues that

> different speech systems or codes create for their speakers different orders of relevance and relation. The experience of the speakers may then be transformed by what is made significant or relevant by different speech systems. As the child learns his speech, or, in the terms I shall use here, learns specific codes which regulate his verbal acts, he learns the requirements of his social structure. The experience of the child is transformed by the learning generated by his own, apparently voluntary acts of speech. The social structure becomes in this way the substratum of the child's experience essentially through the manifold consequence of the linguistic process. From this point of view, every time the child speaks or listens, the social structure is reinforced in him and his social identity shaped.[17]

In sociological terms, the two categories of speech may be seen as arising in social systems which correspond to those which Durkheim indicated as governed by mechanical and organic solidarity - that is, characterised by the differing ways in which ritual acts as a medium of communication in traditional and in industrial societies.[18] Mary Douglas offers an interesting view of the two speech codes:

> The restricted code is deeply enmeshed in the immediate social structure, utterances have a double purpose: they convey information, yes, but they also express the social structure, embellish and reinforce it. The second function is the dominant one, whereas the elaborated code emerges as a form of speech which is progressively more and more free of the second function. Its primary function is to organise thought processes, distinguish and combine ideas. In its more extreme, elaborate form it is so much disengaged from the normal social structure that it may even come to dominate the latter and require the social group to be structured around the speech, as in the case of a university lecture.[19]

The case of mathematical language may well represent a limiting case of such structuring of social groups around speech, given the distance between it and what may constitute a vernacular for many students.

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[16] Ibid.

[17] Basil Bernstein, "A Socio-Linguistic Approach to Social Learning", in *Penguin Survey of the Social Sciences* (London: Penguin, 1965), cited in Mary Douglas, *Natural Symbols*, p. 43-44.

[18] Ibid.

[19] Mary Douglas, *Natural Symbols*, p. 44.

14.3 The Student Report: Mathematics and Language

The reading of materials undertaken by this author as part of the preparation of the communication of 15th. October, 1994, had considered the issue of the Student Report:

> Over the two year programme, the student should complete three half year Tasks, with external assessment provided by the Department of Education at the end of the programme. Each Task should enable students to apply to practical problems the knowledge, understanding, skills and competences developed by participation in the modules. Amongst the evidence of Task performance there should be a Report. Assessment of the Report involved, *inter alia*, assessing understanding of concepts (General Education) while assessment of Task performance involved, *inter alia*, precision and quality (Vocational Education).[20]

The immediate issue for this author *then* had been the demands of the *Task* :

> These points raised the questions: What were students intended to bring to a Task from the Mathematics component? Solely competence? Or knowledge, understanding and skills as well? As Mathematics was to be placed in Vocational Education, what did the emphasis on understanding of concepts in General Education and precision and accuracy in Vocational Education imply for the course content and assessment ? [21]

Later in that document, in the discussion of possible modes of assessment, the issue of the *Report* of the Task is mentioned:

> In participating in the LCA, the student might learn to use some mathematics in certain contexts and to *report* on that experience and *communicate* the results. Was it relevant (sensible, permissible, productive) to talk about transfer of mathematics skills to other (similar, not obviously similar) contexts?

However, the focus here is resolutely on the issue of transfer of skills. The *Report* is finally addressed in the middle of a discussion of matching assessment items to a syllabus set out as behavioural objectives:

> The point at issue here was not that the students had received assistance (they *should* have) but that over time, over Tasks, it would be desirable to see evidence that the

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[20] See Chapter Eight.

[21] See Chapter Eight.

need for such amounts of support would decrease.[22]

Thus the Report could be assessed in a variety of ways, including written and oral language usage, in order to see firstly, had the student exhibited the mathematical behaviours set out in the syllabus, and had the student demonstrated a growth in independent and competent work over time, over Tasks, as a result of the interaction with the competent adult. This is an entirely orthodox Vygotskian programme. In addition, it is clear that the student should get the same type of support in the writing of the Report, but the methodogical issues pertaining to this are not developed. The Report, thus assessed, could then be seen as a transparent object, through which or by which the essential features of the Task could be viewed: contexts encountered and mathematical behavioural objectives met. These features had two orientations. One, towards the direction and coherence of the programme offered in the school, and the other, an orientation towards the individual student.[23]

What is not stated here is that the "extremely thorough assessment procedure" used by REHAB included assessments of *language use, mechanical reading, reading comprehension, spelling, and sample prose writing*. Outcomes in these areas indicated the remedial and compensatory needs of the student, and *the programme of work required to meet the student's needs.*

Why did this author later lose sight of the methodological issues surrounding the need to assess incoming student's competencies in language use, mechanical reading, reading comprehension, spelling, and sample prose writing? Why did this author later lose sight of the methodological issues, set within a Vygotskian framework, surrounding the student's production of the Report, a written communication?

The answers to these questions may be found at one level in the notion of teaching methodology as local knowledge, capable of transmission only by face-to-face in-service, and the further notion of the practice of the remedial teacher as another form of knowledge, an interesting mixture of both the local and the universal.[24] The universal aspect comes

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[22] See Chapter Eight.

[23] See Chapter Eight.

[24] Both aspects forming part of the training of a remedial teacher.

from the influence of psychology and psychometrics, the local aspect from the confrontation with reality which work in school provides, and the forms of communication a remedial teacher uses with colleagues. Once the distinction is made that separates remedial students from the rest of the student body, special resources can be applied, and the nature of the students' difficulties can be discussed as a professional matter in a delimited arena of discourse, with its special conferences and distinct professional body, *as if these difficulties were not shared to some degree by the rest of the student population.*

One immediate lesson is evident from the foregoing discussion. There should have been some way to communicate to teachers the list of student behaviours published in the Mathematics Application modules along with explicit behavioural objectives relating to language use, reading, oral communication, and writing within the Mathematics Applications modules. The question of how welcome such content may have been is an interesting one, and turns upon the difficulty of using a public communication as both an attractive manifesto for the LCA course and a clear and comprehensive communication as to the learning outcomes of such a course, the latter permitting the risky outcomes following on the public evaluation of a course published in this manner. As has been noted, such "clear and comprehensive communication" might better be initiated by the prestigious Higher and Ordinary level mathematics courses of the traditional Leaving Certificate. Moreover, the possibility exists that some teachers would have seen such an *explicit* communication as characteristic of remedial teaching, and either (rightly) sought more in-depth methodological training to implement it or rejected the approach outright. More generally, it might be observed that proposing generic characteristics for a programme without building in an operational mechanism to ensure its implementation in specific aspects may lead to a purely formal adherence to the programme.

14.4 Narrative and General Education

Bruner's later work returns to the issue of continuity in change by establishing a programme, first set out in *Acts of Meaning* and developed more fully in *The Culture of Education*, to establish what is termed a "psycho-cultural" approach to education; any theory of education lying, in this view, at the "intersect" of a theory of mind and a theory of

culture. [25] A central issue, in these terms, is the

> never-ending assessment of the fit between what any particular culture deems essential for a good, or useful, or worthwhile way of life, and how individuals adapt to these demands as they impinge on their lives. We shall be particularly mindful of the resources that a culture provides in making this fit possible. These are all matters that relate directly to how a culture or society manages its system of education, for education is a major embodiment of a culture's way of life, not just a preparation for it.[26]

Nine "tenets" are offered as a guide to the "psycho-cultural" approach.[27] Within the terms of this work, the eighth tenet, "the tenet of identity and self-esteem", and the ninth tenet "the narrative tenet" are of particular importance.[28]

The central concept in the "the tenet of identity and self-esteem" is *selfhood* and the cultural forces which shape it and limit it.

> Some (cultures) emphasise autonomy and individuality, some affiliation; some link it closely to a person's position in a divine or secular social order, some link it to individual effort or even to luck .[29]

Two aspects of selfhood are said to be universal, despite the variations in emphasis found across cultures. These are described as *agency* and *evaluation*.[30]

Human selfhood is characterised, for Bruner, by the conceptual system that organises "agentive encounters" with the world, related to both past and future. This is termed "self with history and with possibility".[31] Though essentially private, this "self-system" extends outwards towards "things and activities and places", of which some of the earliest are

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[25] J. S. Bruner, *The Culture of Education*, p. 13.

[26] Ibid.

[27] Ibid.

[28] Ibid., p. 35.

[29] Ibid.

[30] Ibid., p. 35 and p. 37.

[31] Ibid., p. 36.

schools and school learning.[32] Culture institutionalises selfhood in the form of obligatory grammatical distinctions between "agentive and patientive" forms, and "even the simplest narratives are built around, indeed depend upon, an agent-Self as a protagonist with his or her own goals operating in a recognisable cultural setting".[33] As agency implies "not only the capacity for initiating, but also for completing our acts, it also implies skill or know-how". Success and failure are principal "nutrients" in the development of selfhood, and such judgments, which constitute evaluation, are given not only by the self, but, from the early days, are given in abundance by the school. Self-esteem, for Bruner, arises from this mix of "agentive efficiency" and "evaluation".[34]

The ninth tenet, "the narrative tenet", concerns

> the mode of thinking and feeling that helps children (indeed, people generally) create a vision of the world in which, psychologically, they can envisage a place for themselves - a personal world.[35]

Bruner sees a link between this idea and the kind of problems his earlier notion of the "spiral curriculum" had posed. In particular, precisely how do growing children create meanings from school experience that they can relate to their lives in a culture?

Bruner identifies two "broad ways" in which human beings organise and manage their knowledge of the world and structure their immediate experience. The first, *logical-scientific* thinking, is said to be the more specialised and treats of "physical things"; the other, *narrative* thinking, is said to treat of "people and their plights".[36] The universality of both is said to suggest origins in the human genome or in the nature of language itself - that there might be social origins of the universal rather than those suggested by Chomsky or Saussure is not yet explored.[37] The value of logical-scientific thinking is said to be so

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[32] Ibid.

[33] J. S. Bruner, *The Culture of Education*, citing J. S. Bruner, *Acts of Meaning*, and V. Propp, *Morphology of the Folktale*(Austin: University of Texas Press, 1968).

[34] Ibid., p. 37.

[35] Ibid., p. 39.

[36] Ibid.

[37] Ibid.

implicit in highly technological culture that its inclusion in school curricula is taken for granted.[38]

The value of narrative thinking, for Bruner, lies in it being an essential mechanism in the development of selfhood, and hence self-esteem. "We represent our lives (to ourselves as well as to others) in the form of narrative".[39] Psychoanalysts, it is said, "now recognise that personhood implicates narrative".[40] However, the assumption that narrative skill comes "naturally" has been challenged in recent research. This skill goes through definite stages.[41] It is severely impaired in certain kinds of brain damage.[42] It fares poorly under stress.[43] It becomes "literalism in one social community while becoming fanciful in a neighbouring one with a different tradition".[44]

The creation of "narrative sensibility" in children is said to be not well understood.[45] However, the child should know the "conventional stories of his or her culture...They frame and nourish an identity".[46] Additionally, it is urged that the child should approach

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[38] Ibid.

[39] J. S. Bruner, "Life as Narrative", *Social Research*, 54(1), 1987, 11-32, cited in Bruner, *The Culture of Education*, p. 40.

[40] Donald P. Spence, *Narrative Truth and Historical Truth: Meaning and Interpretation in Psychoanalysis*(New York: W. W. Norton, 1982), and Roy Schafer, *Retelling a Life: Narration and Dialogue in Psychoanalysis*(New York: Basic Books, 1992), cited in Bruner, *The Culture of Education*, p. 40.

[41] Carol F. Feldman, Jerome Bruner, David Kalmar, and Bobbi Renderer, "Plot, Plight, and Dramatism: Interpretation at Three Ages", *Human Development*, 36(6), 1993, 327-342, cited in Bruner, *The Culture of Education*, p. 40.

[42] Jerome Bruner and Carol Feldman, "Theories of Mind and the Problem of Autism", in Simon Baron-Cohen, Helen Tager-Flusberg, and Donald J. Cohen, eds., *Understanding Other MInds: Perspectives from Autism*(Oxford: Oxford University Press, 1993), pp. 267-291, and Oliver Sacks, "A Neurologist's Notebook: An Anthropologist on Mars", *The New Yorker*, 69(44), 1993, 106-125, cited in Bruner, *The Culture of Education*, p. 40.

[43] Bruno Bettelheim, *The Uses of Enchantment: The Meaning and Importance of Fairy Tales*(New York: Random House, 1989), and Donald E. Polkinghorne, *Narrative Knowing and the Human Sciences*(Albany: State University of New York, 1988), cited in Bruner, *The Culture of Education*, p. 40.

[44] Shirley Brice Heath, *Ways with Words: Language, Life and Work in Communities and Classrooms*(Cambridge: Cambridge University Press, 1983), cited in Bruner, *The Culture of Education*, p. 40.

[45] Bruner, *The Culture of Education*, p. 41.

[46] Ibid.

imagination through fiction :

> Finding a place in the world, for all that it implicates the immediacy of home, mate, job, and friends, is ultimately an act of imagination.[47]

The usefulness of the notion of *agentivity* arises from the possibility it offers of pulling together a range of issues which have arisen in this work . Of particular importance is the way the term agentivity implicates notions of self and self-esteem, language and culturally formed grammatical usage, and the activity of an "I", a self, in a world whose limitations are constructed from what is though to be possible for this self.

Three formulations of the obstacles to certain students participating in the academic curriculum have been examined at various points in this work: lack of cultural capital and the constraints of habitus, a mismatch of interests and culture, and the language-oriented nature of the content of such a curriculum. The addition of the socially and personally constructed narrative offered by Bruner may permit the construction of a model of the interaction of person, group, class, and language that is sufficiently complex to be adequate as an interpretative term which embraces all of these formulations. The introduction of culturally normed agentive narrative forms, and the grammars which presumably shape both the production of narratives and their expression, permits the possibility of both the *diversity of behaviour* and the *limits to behaviour that is explicable* which follow from the notion of lives as invented lives; lives that vary in the way we invent them and in the way they are invented for us, and the possibility of communicating with others on the basis of shared meanings.

Bruner's interest in narrative came some twenty years after his promotion of the idea of the spiral curriculum. Consideration of the role of narrative led Bruner to identify a flaw in this model: the implicit assumption that the student's entry into the first circuit of the spiral is unproblematic. It is possible that the provision of opportunities and encouragement to the student to produce agentive narratives which place the self, the teacher, the school, and the first circuit of knowledge in, as it were, the same story ("the protagonist in a recognisable cultural setting"), may not be in itself sufficient. More conscious and intentional types of

[47] Ibid.

intervention may be necessary for an *explicit* pedagogy. Furthermore, the initial "narrative sensibility" of the student appears to be a cultural creation in its own right, arising, it is thought, from familiarity with the "conventional stories" of the student's own culture. In consequence, the innovative reflexive principle upon which the spiral curriculum turns is predicated upon the possession of a *narrative sensibility*. This sensibility is necessary for the production of *agentive narratives*, which record the creation of an expanded notion of *self and self-esteem* through the *agentive efficiency* and *evaluation* of successfully completed school activities - the *recognisable cultural setting*. This formulation might be taken to represent a point of convergence of the views of Bourdieu and Bruner: evaluative procedures of the school which are *implicit* privilege the student to whom primary socialisation has already given an advantage.

The "language oriented" character ascribed to general, academic education in Ireland might now be tentatively identified as the transformative effect general education is intended to produce on agentive narrative.[48] It seems difficult to disengage this effect from the transformation of agentive narrative into formal speech and written text. While this might be said to be a daily feature of the school, the historical and cultural significance of this transformation should not be understated. Following Weber, Gellner argues that the puritan emphasis on the *scriptural* involved an extensive use of reading and writing that proved to be decisive:

> Spoken words owe their impact to context or emphasis, but a written revelation is neutral, for it cannot easily discriminate amongst potential readers. The use of writing by the clerisy leads it to shift gradually from narrative to theory: legal prescriptions, more than exemplary stories, convey the shared meanings and obligations to the faithful....Rules become more important than loyalty, and faith more crucial than works.[49]

To the sociological perspective might be added a psychological one. It was stressed in the discussion of the educational theory of Vygotsky (in Appendix A of this work) that

> while the emphasis here has been on linguistic *signs* (speech and language), Vygotsky's formulation deals with human interaction on the basis of other signs as

[48] This is not to claim that general education in Ireland has implemented the model of the spiral curriculum. The issue here is Bruner's identification of problems the student might experience in getting started at any curriculum which takes "intuitive" student accounts of experience for granted.

[49] E. Gellner, *Reason and Culture* (Oxford: Blackwell, 1992)., p. 43.

well; for example, "...various systems for counting; mnemonic techniques; algebraic symbol systems; works of art; schemes; diagrams; maps and mechanical drawings; all kinds of conventional signs".[50]

These latter signs share the characteristic of permitting communication at a distance. This inventory of signs seems to constitute the element described by Rogoff and Wertsch as "the hard and soft technologies", which, with task definitions and promoted activities, constitute the dynamical functional system which organises an adult-child interaction oriented towards the child's future skills and knowledge.[51]

The character of the transformation effected by general education might thus be described as *mediated by a teacher*, *intersubjective*, and directed towards the transformation of agentive narrative into *conventional sign systems permitting communication at a distance*, and the *manipulation* of these systems. The *basic capacities*, such as attention, include the cycle from *narrative sensibility* to *agentive narrative* based on the expansion of *self and self-esteem* through *agentive efficiency* and *evaluation*. The purpose of general education is thus to bring the student to the representation of agentive narrative in sign systems bound by grammars (conventions), the manipulation of narratives thus encoded, and the provision of opportunities to practice and improve upon first attempts at such representation and manipulation.

A difficulty discussed earlier in this work was that in school, unlike the workplace, the world to be learned is not presented "whole", with its puzzling complexity. It was argued that in the case of the LCA, the Student Task may have been intended as a "whole" context, with a repertoire of activities associated with it, directed to aims that are obvious, or which may have to be explained, using instruments whose use is demonstrated by the teacher (mentor). *Precisely how the student was to begin activity, to be sustained in activity, and to assume more responsibility for activity, was left to "that mystery, methodology."* [52] Subsequent use of the same (or adapted) instruments in other whole

[50] L. S. Vygotsky, "The Instrumental Method in Psychology", in *The Concept of Activity in Soviet Psychology*, ed. J. V. Wertsch (White Plains, NY: Sharpe, 1981), p. 137.

[51] J. V. Wertsch, "The Zone of Proximal Development: Some Conceptual Issues" in B. Rogoff and J. V.Wertsch, *Children's Learning in the Zone of Proximal Development: New Directions for Child Development*, p. 5.

[52] Chapter Eight.

tasks was to be encouraged, not by the naming of the instrument, but by the naming of the previous whole task. *The naming was seen as an appeal to a complex of intentional activity, to a story about that, not to an abstracted piece of knowledge*. The views of Lave and Wenger were quoted, arguing that such stories lead to

> engaging, focusing, and shifting attention, bringing about coordination...on the one hand and supporting communal forms of memory and reflection, as well as signalling membership, on the other...For newcomers, then, the purpose is not to learn *from* talk...it is to learn *to* talk....[53]

It was concluded that if the aim of the LCA was to supplement general education, rather than provide vocational education, then "general education" had a special sense: not abstract knowledge, but knowledge and experiences, vernacular "stories", which the generality of the population were expected to have shared. Vocational education, in these terms, was taken to mean specialised stories, not expected to be known to the generality of people.

The discussion of agentive narrative and the transformation of it by general education permits a recasting and, hopefully, a clarification of how the LCA may effectively supplement general education. A first attempt might be:

> There are two phases to the transformation. Firstly, the establishment and/or strengthening of the basic capacities which support agentive narrative; secondly, the transformation of agentive narrative into conventional sign systems.
>
> Basic capacities are built or strengthened by means of the cycle from narrative sensibility to agentive narrative, based on the expansion of self and self-esteem through success (agentive efficiency and evaluation) at (preliminary or practice) Student Tasks.
>
> The transformation effected by general education is *mediated by a teacher, intersubjective*, and directed towards the transformation of agentive narratives about Student Tasks into *conventional sign systems permitting communication at a distance*, and the *manipulation* of these systems. The purpose of general education is thus to bring the student to the representation of agentive narrative in sign systems bound by grammars (conventions), the manipulation of narratives thus encoded, and the provision of opportunities to practice and improve upon first attempts at such representation and manipulation.

A more LCA-centred expression might run as follows.

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[53] J. Lave and E. Wenger, *Situated Learning: Legitimate Peripheral Participation* , p. 109. Recall Lynch's exhortation that "the way forward may be to develop the pedagogic expertise needed to develop language skills of children from diverse cultural backgrounds".

> The Student Task is intended as a "whole" context, with a repertoire of activities associated with it, directed to aims that are clearly understood, and to the particular aim of making a record of what has happened. The first priority is to get the task done successfully, with the provision of whatever "instruments" and help is required. The first phase is completed by the articulation of a narrative.
>
> The second phase consists of a language development element in which the narrative of the student is structured by the addition of vocabulary (if necessary) to name "instruments", the use of short sentences (which builds attention to sequence), the use of an introduction, and the use of a conclusion. Pictures and diagrams should be encouraged, especially when complex locutions might otherwise be needed. A record of the narrative is made. A series of preliminary exercises such as these may then be used to build towards more polished productions.[54]
>
> If productive, this two phase cycle would lead to the subsequent use of the same (or adapted) instruments in other whole tasks not by the naming of the instrument, but by the naming of the previous whole task. This is an appeal to a complex of intentional activity, to a story about that, not to an abstracted piece of knowledge. Such stories lead to "engaging, focusing, and shifting attention, bringing about coordination...on the one hand and supporting communal forms of memory and reflection, as well as signalling membership, on the other...For newcomers, then, the purpose is not to learn *from* talk...it is to learn *to* talk..."

Upon reflection, the formulation given above as a "more LCA-centred expression" may be a little too strong. Instruments are named, but the names are not necessarily used subsequently. The call to memory is a call to a shared story, in which the instrument or instruments which were used *then*, are needed *now*. This mode of communication may be easily satirised as an endless stream of anecdotes, but Rogoff and Lave insist on its reality as a mode of communication which people use, for example, the "war stories" photocopier repairers tell each other.[55] The issue can be reduced to a conflict between accounts of how, in fact, people communicate with each other, and accounts of the forms of communication industrial society is claimed to demand; forms characterised, for Gellner, as those used by anonymous technicians communicating at a distance: manuals, charts, print-outs, technical reports. This is, once again, the conflict of local knowledge and universal knowledge.

Following the transformation of agentive narrative, it is the subsequent acquisition of "formalising and structuring" abilities that appear to permit the "spiral effect": the transition from one turn of the spiral to the next, allowing an approach to "mastery of the topic or

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[54] Tape could be used at this stage. Thus the record of the narrative might first be a presentation based on short, paused, sentences on tape, supplemented by diagrams. The final presentation might be the product of the entire class group. Software applications such as Powerpoint offer interesting possibilities in this regard.

[55] B. Rogoff and J. Lave, ed., *Everyday Cognition: its development in social context.*

subject in its full generative power.[56] It is this *reflexive* activity which Bruner claims as essential in an education which is intended to cope with the rate of change in modern society. *The data of experience, once coded in symbolic form as narrative, becomes a variable as the spiral is turned.* This is the

> need for studying the possible rather than the achieved - a necessary step if we are to adapt to change. It is the behavioural sciences and their generality with respect to variations in the human condition that must be central to our presentation of man, not the particularities of his history.[57]

Through successive turns of the spiral, "the representation of agentive narrative in sign systems" becomes *the awareness of the possibility* of representing agentive narratives; "bound by grammars (conventions)" becomes bound by *possible grammars*; "the manipulation of narratives thus encoded" becomes *possible manipulation of narratives* thus encoded; and "the provision of opportunities to practice and improve upon first attempts at such representation and manipulation" becomes the provision of opportunities to practice and improve upon first attempts at such *possible* representation and manipulation.

This formulation offers a powerful way of describing *abstraction,* and, in particular, a defining characteristic of the movement of mathematical thought. This is the phenomenon to which students of the Leaving Certificate Foundation course in mathematics are to be introduced. It is in this that the LCA student, in the development group's view, was to partially participate through naming instruments and being open to *possible* uses of them outside the stories in which they had encountered them.

It had been commented earlier that in the LCA, the study of English "in its own right" relied upon the existence of poetry, short stories, and other literary materials to develop a critical literacy. The new look at the Student Task, reformulated as above, permits the record of the Student Task to be used as a mathematical short story or play, from which a critical literacy extracts the mathematical "instruments" as stock characters or stereotypes which serve functions related to their nature. The dramatic simile seems productive, in that

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[56] In these terms, it is not clear how useful the spiral image is. Another model might be based on a quantised model, rather than on the continuity of the spiral model.

[57] J. S. Bruner, *Towards a Theory of Instruction*, p. 36.

the published syllabus may be seen as both a theatre programme with its *dramatis personae*, its list of Acts and Scenes, and a very sketchy play script or shooting script, and the construction of the Student Task as the writing of a play, with teachers from different subject areas pushing their characters onto the stage. Further, the interesting possibility of the students as authors, or as a collective author, might be considered, with the *students* addressing the question posed by the the Assistant Chief Executive of the NCCA:

> Given a particular context (preferably a vocational one), what constituted a reasonable inventory of mathematical procedures embedded in the context? What would a person doing *this* need to know?

15 CONCLUSIONS

15.1 Introduction

The aims of this study were to

> apply Bourdieu's approach to the episode of curriculum development given here as an object of enquiry situated within education as a preparation for work, and to consider the implications of this study for the teaching and learning of mathematics.[1]

Bourdieu's approach rests upon an hypothesis which is clearly set out in his work *The State Nobility*:

> In keeping with the usual view, the goal of sociology is to uncover the most deeply buried structures of the different social worlds that make up the social universe, as well as the "mechanisms" that tend to ensure their reproduction or transformation. Merging with psychology, though with a kind of psychology undoubtedly quite different from the most widely accepted image of this science, such an exploration of objective structures is at one and the same time an exploration of the cognitive structures that agents bring to bear in their practical knowledge of the social worlds thus structured. Indeed there exists a correspondence between social structures and mental structures, between the objective divisions of the social world - especially the division into dominant and dominated in the different fields - and the principles of vision and division that agents apply to them.[2]

The objectives of the present study were:

> To make an objective and historical analysis of the social, cultural, and educational institutions, agents and practices surrounding a specific curriculum development initiative concerned with education as a preparation for work.
>
> To obtain an objective view of the interests and benefits which may attach to a teacher who takes part in a curriculum development project and writes a scholarly work about that practice.
>
> To present the empirical practice of the curriculum development project by means of documents and materials and to explore the relations between such practice (and agents' representations of it) and objective social structures.
>
> To consider the implications of this study for the teaching and learning of mathematics, and to make recommendations.[3]

This chapter attempts to draw together the different strands of the thesis by reviewing these

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[1] Introduction, p. 15.

[2] Pierre Bourdieu, *The State Nobility* (Cambridge: Polity Press,1996), p. 1.

[3] Introduction, p. 15.

four objectives, analysing the outcomes and commenting on the implications. The four objectives will be respectively referred to as: Objective and Historical Analysis, Interests and Benefits, Practices and Structures, and Access to Mathematics.

15.2 Objective and Historical Analysis

This section reviews the following objective of the study:

> To make an objective and historical analysis of the social, cultural, and educational institutions, agents and practices surrounding a specific curriculum development initiative concerned with education as a preparation for work.

This work has concluded that the relation between the evolution of the nature and extent of the provision of resources for general and vocational education in Ireland may be interpreted as homologous with the relation between the historically varying positions of the Roman Catholic church and the State in a contest for the right to teach and for the right to employ. A study of the relation between the evolution of the nature and extent of the provision of resources for private and public health care in Ireland might be undertaken to test the hypothesis than an homology exists between this relation and the relation between the historically varying positions of the Roman Catholic church and the State.

It has been concluded that the contemporary organisational arrangements for the control and ownership of the institutions of post-primary education in Ireland reflects the *de facto* concordat between a powerful, industrialised and nationalist State and an increasingly secularised, and hence pluralist, set of churches. The increasingly powerful role of the universities has been identified.

The analysis of the evolution of educational policy directed towards supporting industrial expansion concluded that the manner in which the contemporary policy objective of retention of students in school is being implemented in Ireland is in conflict with the paradigm emerging in other industrialised (and almost entirely secular) societies. It is concluded that the traditional, highly differentiating curriculum represents a body of knowledge that is fracturing into one part which is increasingly seen as culturally arbitrary

and another part which is increasingly valued as contributing to the creation of a general industrial vernacular and of specific technical competences.

15.3 Interests and Benefits

This section reviews the following objective of the study:

> To obtain an objective view of the interests and benefits which may attach to a teacher who takes part in a curriculum development project and writes a scholarly work about that practice.

It has been claimed that a consequence which bears on a teacher who takes part in a curriculum development project is that the more the teacher is involved in curriculum development, the more the teacher tends to occupy an exceptional position and ceases to be representative of the generality of teachers.[4] The present work has identified some of the features which might shape this "separation effect".

At the most utilitarian level, teachers may benefit from participation in curriculum development projects in the form of enhanced promotional opportunities *within* school, or the benefit may take the form of marking the beginning of a career trajectory which takes the teacher out of the classroom, or the school, and towards those executive positions which implement policy. The proximity of these career possibilities to involvement in a course committee and a curriculum project were shown in the diagram which is reproduced below.

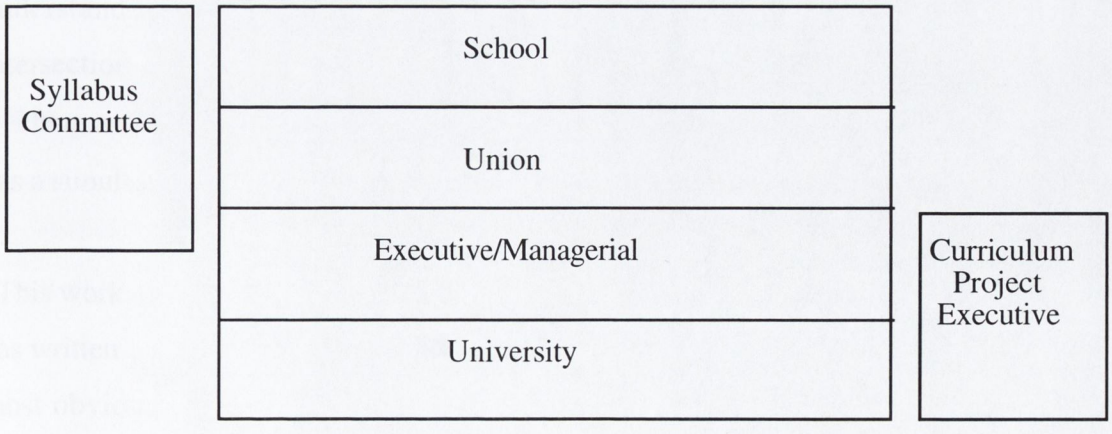

Figure 15.1 Career Possibilities and Syllabus Committees

[4] G. Howson, C. Keitel, and J. Kilpatrick, *Curriculum Development in Mathematics* (Cambridge: Cambridge University Press, 1986), pp. 240 - 1.

It was suggested that this diagram might be read from top to bottom as extending from dominated to dominant regions of activity in the educational field, a field that was claimed to lie at the lower level of power relations between the state and other significant groups in society. The middle region of the diagram marks the transition from the activity of organised labour to managerial activity, and in career terms, marks a clear break in orientation away from the representation of the perceived interests of the dominated fraction of the field towards the implementation of dominant managerial policies.

This study also pointed towards other, less utilitarian, features which might shape the "separation effect".

Two poles of activity have been identified in the mathematics curriculum development process: the *academic* discipline of mathematics ("extent, selection, and sequencing") and *teaching method*.[5] It appears that teachers involved in curriculum projects move in complex ways between these poles, and it is concluded here that the particular characteristics of mathematics mark these moves in a special way: the more a teacher has been socialised into that culture of *order, pattern, and coherence* (by means of an effective university education), the more its claims will tell upon the teacher. Two caricatures (limiting cases) arise from such an analysis: the teacher who is *possessed* by mathematics, and who returns from the mountain to be devoured by the tribe; and the teacher who is *possessed* by practice, and whose dogged refusals (which look like ignorance) of the demands of the gods are rewarded by the esteem of the tribe. It is concluded in this work that the interpretation of such complex behaviour exceeds the capacities of reductionist utilitarianism, and that a better understanding will result from viewing the curriculum development process as the intersection of two largely autonomous fields (mathematics as an academic discipline and teaching as a practical activity, each with its own *metric*), in which intersection each artifact has a simultaneous double meaning.

This work also concluded that the interests and benefits which may attach to a teacher who has written a scholarly work about involvement in curriculum development are probably the most obvious benefits that flow from acquiring an academic credential. That is, such a teacher benefits from the social magic such credentials work: the transformation of the

[5] Ibid., p. 241.

mundane into the sacred, those deemed unworthy into those deemed worthy (socially competent) to wield power. Of more interest, however, is the analysis this work presents of the difficulties facing a researcher who wishes to enter a game (in order to write a *disinterested* work about the game and hence gain the academic credential), but who must be a *player* (have a stake in the game) to gain entry. This author concluded that it was ultimately the powerlessness of the group of students for whom the LCA was being designed, made manifest in the odd structure set up to design the course, that permitted this study to be undertaken at all. One implication of this conclusion is that such an analytic task should be assigned to every curriculum development project designed for implementation at national level; and that a role should be created for a person to carry out this task so as to gain an academic credential - that is, the university (or other body) must stand guarantor for the disinterestedness of the analysis (even though university academics may be players in the game), and the analyst should have an interest in being disinterested.

15.4 Practices and Structures

This section reviews the following objective of the study:

> To present the empirical practice of the curriculum development project by means of documents and materials and to explore the relations between such practice (and agents' representations of it) and objective social structures.

This study disputes the contention that the determination of the content of the Mathematical Applications modules of the LCA programme was a conscious and deliberate exercise in promoting the class and power interests of the teachers involved. It is not disputed that such teachers have interests; in fact, this study has made explicit what these interests might be. The grounds of the disagreement are, however, that such promotion of interests was "conscious and deliberate" and that the interests were simply to do with promoting class status and power.

The interpretation of the teachers' activity offered here is that the teachers may have been trying to promote a variety of interests which arose from differing fields of social life. The set of mathematical behaviours assembled by the groups of teachers (and more exactly specified by the Development Group) appear to have been shaped by their practice and

experience, on the one hand, and by their estimation of the demands of contemporary industrial society. The teachers seem to have been interested in maximising the extent of this set of mathematical behaviours (upon industrial rather than academic principles) and in specifying its elements with some exactness. It seems difficult to characterise this activity as the recycling of working-class resistances. However, this activity may be interpreted as serving the interests of business and industrial interests, not only because of the mathematical and technological content, or the failure to address the coherence criterion that would point to the high science of the university, but because of the explicitness of the description of the content of the course, an explicitness considered to be *demeaning* by the Steering Committee of the LCA. This, for Bourdieu, is the logic of the economic field:

> The academic title is both a weapon and a stake in the symbolic struggles in which what is at stake is social standing. The higher the academic title, the more likely it is to function as a title of nobility, a dignity, freeing its holder from ever having to prove himself or practically demonstrate his skill, and the greater advantage it gives in *classification struggles*, in which what is principally at stake is the choice of granting priority either to the symbolic or to the technical dimension of titles and jobs, or the reverse. Of course, in the symbolic struggles of everyday life, it is to an agent's advantage to see his own title treated as the guarantee of a dignity and, on the other hand, to treat others' titles as guarantees of a skill. This is why the economically powerful, when they act as purchasers of a work force, naturally tend to favor technical skills and to treat the symbolic dimension of a title as an obstacle to the free play of competition and market forces. They thus become the perfect expression of the logic of the economic field that, given its exclusive attention to production and productivity, officially at least, tends to measure the value of (subordinate) workers solely in terms of their technical skills.[6]

The activities of the members of the Steering Committee, too, have been interpreted in this work as attempts to promote a variety of interests which arose from differing fields of social life. As managers, they are the individuals in this work who are truly driven by the imperatives of time and policy. The imperatives of policy are concluded in this study to have been in conflict with each other and to have given the interventions of the Steering Committee a specific character. On the one hand stood the emerging consensus in industrial Europe concerning a new classification of employments by education and training, and the concomitant necessity to introduce new borders, breaks and distinctions into the continuum of practically universal mass post-primary education; while on the other hand stood a specific and historically contingent compromise between church and state concerning social power and the control of education in Ireland. It is concluded in this study that the

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[6] Pierre Bourdieu, *The State Nobility,* pp. 119 -120.

contemporary *structure* of provision of courses of study for post-primary education in Ireland reflect the terms of this conflict, and a series of synoptic diagrams have been given to represent its dimensions. This study hypothesises the provision of a "spread" of courses (within what is viewed as a continuum) as a response to cultural differentiation *within* a social group, while the provision of a course which is clearly distinct from a continuum of other courses may be seen as a response to differentiation *between* social groups.

15.5 Access to Mathematics

This section reviews the following objective of the study:

> To consider the implications of this study for the teaching and learning of mathematics, and to make recommendations

This work identified three formulations of the obstacles to certain students participating in the study of mathematics: lack of cultural capital and the constraints of habitus, a mismatch of interests and culture, and the language-oriented nature of the content of the curriculum. The addition of Bruner's theory of agentive narrative has been claimed here as a key step towards producing a theory which can explain the diversity of student responses to mathematics instruction and the limits of such behaviour, as well as suggesting strategies to expand those limits.

The character of the transformation effected by general education is concluded in this work to be: *mediated by a teacher*, *intersubjective*, and directed towards the transformation of agentive narrative into *conventional sign systems permitting communication at a distance*, and the *manipulation* of these systems. The *basic capacities*, such as attention, include the cycle from *narrative sensibility* to *agentive narrative* based on the expansion of *self and self-esteem* through *agentive efficiency* and *evaluation*.

The purpose of general education is concluded to be to bring the student to the representation of agentive narrative in sign systems bound by grammars (conventions), the manipulation of narratives thus encoded, and the provision of opportunities to practice and improve upon first attempts at such representation and manipulation. It is claimed here that it is the subsequent acquisition of "formalising and structuring" abilities that appear to lead

to the *reflexive* activity which Bruner claims as essential in an education which is intended to cope with the rate of change in modern society. This is the need for studying the possible rather than the achieved.[7]

A specific recommendation is made regarding the key role of the Student Task in the LCA programme:

> The Student Task is intended as a "whole" context, with a repertoire of activities associated with it, directed to aims that are clearly understood, and to the particular aim of making a record of what has happened. The first priority is to get the task done successfully, with the provision of whatever "instruments" and help is required. The first phase is completed by the articulation of a narrative.
>
> The second phase consists of a language development element in which the narrative of the student is structured by the addition of vocabulary (if necessary) to name "instruments", the use of short sentences (which builds attention to sequence), the use of an introduction, and the use of a conclusion. Pictures and diagrams should be encouraged, especially when complex locutions might otherwise be needed. A record of the narrative is made. A series of preliminary exercises such as these may then be used to build towards more polished productions.[8]
>
> If productive, this two phase cycle would lead to the subsequent use of the same (or adapted) instruments in other whole tasks not by the naming of the instrument, but by the naming of the previous whole task. This is an appeal to a complex of intentional activity, to a story about that, not to an abstracted piece of knowledge. Such stories lead to "engaging, focusing, and shifting attention, bringing about coordination...on the one hand and supporting communal forms of memory and reflection, as well as signalling membership, on the other...For newcomers, then, the purpose is not to learn *from* talk...it is to learn *to* talk..."

Here, the wholeness of the task, its *intelligibility*, may be provided through the choice of an activity which has some kind of naturalness or attraction for the students. The key step is to get the task concluded successfully with as much assistance as is required, so that the cycle of reporting can also be completed successfully. At this point, or after further cycles of tasks and reports, a reflexive activity should take place. For example, tasks concerning area are likely to involve the notion of the square of a number and its square root and the use of the calculator. The outcomes are likely to be seen as arbitrary by the students, especially if the numbers are large or small. Consider the following:

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[7] J. S. Bruner, *Towards a Theory of Instruction*, p. 36.

[8] Tape could be used at this stage. Thus the record of the narrative might first be a presentation based on short, paused, sentences on tape, supplemented by diagrams. The final presentation might be the product of the entire class group. Software applications such as Powerpoint offer interesting possibilities in this regard.

Example : $\sqrt{x}$

(*i*) Find $\sqrt{87}$, correct to one decimal place.

Steps: key 87 correctly

select $\sqrt{}$ key correctly

round to one decimal place correctly

Some further classroom steps can be added. In what follows, the ☆ indicates a "speaking or thinking or writing" component of the solution to the problem, the ✓ indicates a "writing" component.

Q: What do you have to do here, S ?
A: I have to find the square root of 87 and do something with the answer ☆

Q: Is the square root of 87 going to be bigger or smaller than 87 ?
A: Smaller ☆

Q: Why ?
A: 87 is bigger than 1 ☆

Q: Write down an estimate (guess) for $\sqrt{87}$. What did you write ?
A: 9 (EST) ✓

Q: Why 9 ?
A: Because 9 times 9 is 81 which is close to 87 ☆

Q: What answer does the calculator give ?
A: 9.3273791 ☆

Q: Write this down. What did you write ?
A: 9.3273791 (CALC) ✓

Q: Does this answer seem reasonable ?
A: Yes, because it is close to my estimate ☆

Q: Are you finished ?
A: No. I have to write down the answer correct to one decimal place ☆

Q: What have you written down ?

A: ANS 9.3 (1DP) ☆✓

This approach is designed to address a variety of issues:

a characteristically impetuous and spontaneous manner of response on the part of some students

difficulties with directed attention on the part of some students

difficulties with the self-regulation of behaviour on the part of some students

the development of better strategies in solving problems in Maths

the teacher as a master problem solver

the student as an apprentice problem solver

the student supported and prompted ("scaffolded") by the teacher during the co-operative initial attempts at problems

the **gradual** withdrawal of verbal support by the teacher, the student providing the missing prompts themselves

the student as a prompter of himself/herself (thinking aloud stage)

the student as a prompter of himself/herself (thinking silently stage)

the student recording his/her work

the student recording work so that it may be assessed

One short summary of all this is to say that "thinking out a problem" may be thought of as some sort of abbreviated script, an echo of a dialogue between master and apprentice.

A detailed examination of the model √ script given above reveals that the following background knowledge and skills have to be available to the student:

1. express √ as "square root"
2. understand, express adequately, and reason with the fact that $\sqrt{x} > x$ for $0<x<1$, $\sqrt{x}=x$ for $x=1$ or 0, $\sqrt{x} < x$ for $x > 1$
3. estimate $\sqrt{x}$ and write answer
4. execute $\sqrt{x}$ on the calculator and write answer
5. compare with estimate
6. approximate a decimal by rounding to n decimal places and write answer

It is curious that the item which causes students most difficulty is probably estimation.

Q: Consider the following square root calculations and provide an estimate for each:

$\sqrt{87}$	$\sqrt{0.00049}$	$\sqrt{4529}$
easy	tricky	tricky

The first is easy because **we** know our tables. The others are not easy unless we either have a benchmark result that we happen to know, or we use trial and error, or we have to apply some abstract reasoning to get some rules.

The first thing to notice is the difference of behaviour of $\sqrt{x}$ when $x > 1$ and $x < 1$.

An instructive 20 minutes can be spent getting a class to draw the following mapping diagram on graph paper.

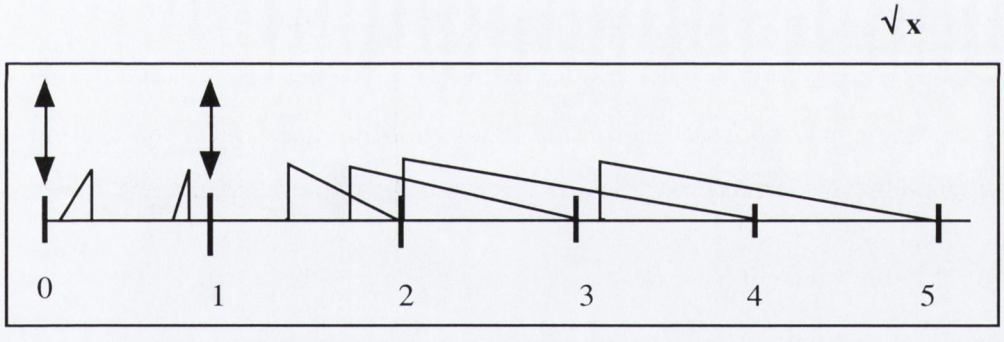

Figure 15.2 The Behaviour of the Square Root Function

A reasonable conclusion is that if $x < 1$ then $\sqrt{x}$ is between x and 1.
Also, if $x > 1$ then $\sqrt{x}$ is between x and 1. This looks strangely similar!

$\sqrt{x}$ is between x and 1 (except if it is 0 or 1)

Students are generally content that the side length in a square is a smaller number than the area, and that the area is larger than the side length. That is, their experience of examples has given this expectation. A square of side 0.16 m having an area of $0.0256m^2$ is hence somewhat of a surprise. Furthermore, it seems well-established in educational literature that students do understand notions of area based on say, a rectangle of 3 cm by 4 cm being 12

cm^2, as this can be reduced to square counting, but difficulties arise when the lengths become 3.14 and 4.78, for example.

A more successful approach builds on our work on $\sqrt{x}$ shown above. This approach also works for all the positive integer power functions such as x^3, x^4 etc etc. To begin with, we assume $x > 0$.

We have already seen how $\sqrt{x}$ pulls x towards 1, except when x is 0 or 1. The positive integer power functions do the reverse - they pull x away from 1. Just as there are two ways one may go away from 1 on the number line, we have powers of x going towards 0 if x is already less than 1, and powers of x going towards infinity - "way out there" - if x is already bigger than 1.

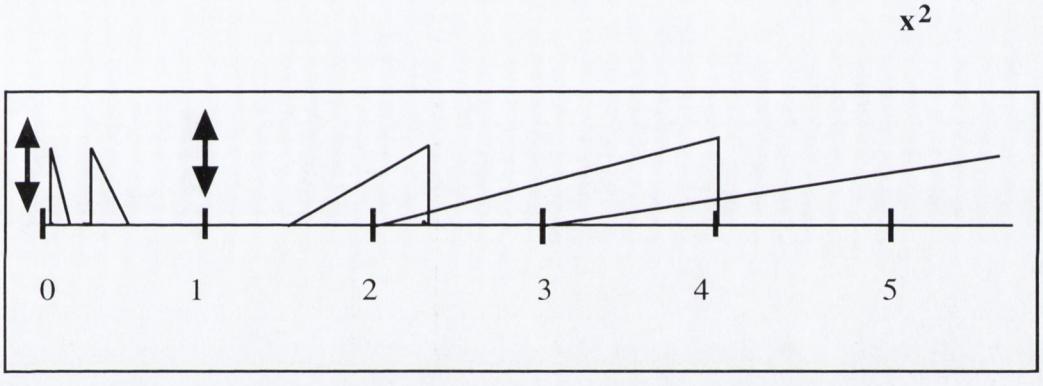

Figure 15.3 The Behaviour of the Squared Function

The foregoing episode exemplifies the reflexive turn desired of teaching and learning in the model set out above. The construction of episodes such as these and the dissemination of the associated methodology are not trivial matters, and require a serious allocation of resources if the LCA programme is to address, in a serious way, the mathematical education of the students who participate. Moreover, one of the most difficult tasks may be, as Bruner now admits, managing the initial step of engagement, any sort of engagement, by the student. To describe such tentative steps as an enlargement of the universe of the possible seems rhetorical and overblown, but whatever modest term is used to describe these marginal changes in habitus, these are still real changes and should represent real acquisitions of competence.

Whatever small-scale victories take place in school, the education system will still continue

to reproduce the social order by means of the academic verdicts the system dispenses. The permanent and final nature, the *violence*, as Bourdieu puts it, of such verdicts, which allocate or bar occupations to those judged in different degrees to be worthy or unworthy, seems strangely at odds with the humanistic discourse which is often used to justify the study of a subject or the inclusion of particular curricular content. If knowledge is valuable, then the time taken to acquire it should be what is necessary for each individual, and every quantum of that knowledge which is acquired should be acknowledged. The study of mathematics in school is a particularly transparent case of how in fact some students can take years more to master material that others have mastered earlier (Junior Certificate Higher, Leaving Certificate Ordinary), yet by some strange social magic, this is forgotten or not generally considered. Perhaps mathematics, now so esteemed in technological society, can invoke the generous dispositions required to make its acquisition a more open-ended project than before or with other forms of knowledge.

Mathematics, however, as with other forms of knowledge, is not immune to the corrosive effects of industrial principles and practices, which query the arbitrary nature of much of what is taught in school, and seek to promote the study of the possible rather than the achieved, as Bruner has it. This industrial effect must surely tend to place teachers and their practices under examination, and to replace the definition of teachers as *who they are* (individuals certified to be culturally competent by the university) by *what they do* (effective practitioners). Teachers are likely to resist this social demotion in a variety of ways, without necessarily being aware of its meaning. For some teachers the transformation of their discipline from a valued cultural attribute to a generic skill will represent, as Bourdieu puts it, not only an attack on their assets but on their mental integrity.[9] For other teachers, whose practice has already been transformed, the challenge will be to keep some element of control over what in fact they do, and to maintain an ethical dimension to teaching practices in the face of relentless demands to *add value* to the commodities they handle.

[9] Pierre Bourdieu, *The State Nobility*, p. 6.