LEABHARLANN CHOLÁISTE NA TRÍONÓIDE, BAILE ÁTHA CLIATH | TRINITY COLLEGE LIBRARY DUBLIN
Ollscoil Átha Cliath | The University of Dublin

Terms and Conditions of Use of Digitised Theses from Trinity College Library Dublin

Copyright statement

All material supplied by Trinity College Library is protected by copyright (under the Copyright and Related Rights Act, 2000 as amended) and other relevant Intellectual Property Rights. By accessing and using a Digitised Thesis from Trinity College Library you acknowledge that all Intellectual Property Rights in any Works supplied are the sole and exclusive property of the copyright and/or other IPR holder. Specific copyright holders may not be explicitly identified. Use of materials from other sources within a thesis should not be construed as a claim over them.

A non-exclusive, non-transferable licence is hereby granted to those using or reproducing, in whole or in part, the material for valid purposes, providing the copyright owners are acknowledged using the normal conventions. Where specific permission to use material is required, this is identified and such permission must be sought from the copyright holder or agency cited.

Liability statement

By using a Digitised Thesis, I accept that Trinity College Dublin bears no legal responsibility for the accuracy, legality or comprehensiveness of materials contained within the thesis, and that Trinity College Dublin accepts no liability for indirect, consequential, or incidental, damages or losses arising from use of the thesis for whatever reason. Information located in a thesis may be subject to specific use constraints, details of which may not be explicitly described. It is the responsibility of potential and actual users to be aware of such constraints and to abide by them. By making use of material from a digitised thesis, you accept these copyright and disclaimer provisions. Where it is brought to the attention of Trinity College Library that there may be a breach of copyright or other restraint, it is the policy to withdraw or take down access to a thesis while the issue is being resolved.

Access Agreement

By using a Digitised Thesis from Trinity College Library you are bound by the following Terms & Conditions. Please read them carefully.

I have read and I understand the following statement: All material supplied via a Digitised Thesis from Trinity College Library is protected by copyright and other intellectual property rights, and duplication or sale of all or part of any of a thesis is not permitted, except that material may be duplicated by you for your research use or for educational purposes in electronic or print form providing the copyright owners are acknowledged using the normal conventions. You must obtain permission for any other use. Electronic or print copies may not be offered, whether for sale or otherwise to anyone. This copy has been supplied on the understanding that it is copyright material and that no quotation from the thesis may be published without proper acknowledgement.

Virtual Learning Environments for School Leadership Development: Towards a Model of CMC-Supported Professional Learning

Rory O'Toole

A dissertation submitted to the University of Dublin,
in partial fulfilment of the requirements for the Degree of Doctor in Philosophy

2009

Supervisor: Ms Ann Fitzgibbon

TRINITY COLLEGE
2 6 JUL 2011
LIBRARY DUBLIN
THESIS
9303

Declaration

I declare that the work described in this dissertation is, except where otherwise stated, entirely my own work and has not been submitted as an exercise for a degree in this or any other university.

I also agree that Trinity College Library may lend or copy this dissertation upon request.

Signed:

Rory O'Toole

B. Tech. Ed. (NCEA, Thomond College)
L.C.G.I. (City & Guilds, London)
H. Dip. Ed. Mgt. (NUI, Maynooth)
M. Ed. (NUI, Maynooth)
M. Sc. (Trinity College, Dublin)

June 2009

Summary

The dissertation contributes to the field of research on school leadership development. More specifically, the research highlights the issues of engaging school leaders in professional development initiatives which are supported by the use of a virtual learning environment. In identifying these issues, a theoretical context is developed that encompasses current approaches to professional learning for school leaders. It also examines a number of theories of leadership and leadership models. An objective of the research is to develop a model which will inform the use of online environments for computer-mediated communication (CMC)-supported professional learning.

The overall research approach is that of participatory action research. A number of research methods are used, including a case study on the design and implementation of a virtual learning environment to support school leadership development. The case study at the centre of the research is that of the implementation of a virtual learning environment by an organisation – *Leadership Development for Schools* – charged with supporting the professional development of school leaders in Ireland.

Research data include an analysis of the content of a series of online discussion forums. This analysis is carried out with reference to the Community of Enquiry Model and seeks to identify evidence of social presence and cognitive presence within these discussion forums. In addition, the research incorporates data derived from a questionnaire administered to a group of professional development programme designers.

The research highlights the challenges in engaging practitioners in online communities of practice. In particular, the absence of knowledge construction and the application of new learning is a feature of the online communities examined. However, the communities did exhibit high levels of open communication and social cohesion. These findings suggest deficits in the policy development and implementation processes at a systemic level.

The conclusions drawn from the empirical research suggest a number of elements which were incorporated into a conceptual model to guide the use of CMC technologies to support professional learning. A key element of the model is the concept of engagement with communities of practice as a professional imperative. The model includes elements of critical reflection and action science and emphasises the need to identify an appropriate theory of professional learning to inform the selection of appropriate continuing professional learning methodologies and contexts.

Acknowledgements

I would, first of all, like to thank my supervisors, Ann Fitzgibbon, Education Department, TCD and Kevin Marshall, Microsoft Ireland, for their unstinting support during the course of this project. I have not made the already difficult task of research supervision any easier and I am most grateful for their encouragement and forbearance. I would also like to thank Microsoft Ireland, through Dr Marshall, for the generous allocation of a research grant.

The research was guided at a number of critical junctures by Brendan Tangney of the Centre for Research in IT in Education, TCD and I would like to thank Mr Tangney for the opportunity to conduct this research under the aegis of CRITE. I am grateful to Conor Galvin, School of Education & Lifelong Learning, UCD and Keith Johnson, Education Department, TCD, for their insights and guidance on the research topic.

The research would not have been possible without the cooperation of Paddy Flood, National Coordinator, Leadership Development for Schools. In addition to Mr Flood, I would like to pay particular tribute to Margaret MacMahon for her outstanding cooperation and hard work. Of course, a special word of thanks is due to all the fulltime and associate members of the *Leadership Development for Schools* team.

I would like to record my gratitude to Lorcan Mac Conaonaigh, Assistant Chief Inspector, Department of Education & Science, for clarifications on changes in the Department of Education & Science organisational structure following publication of the Cromien Report.

I am most grateful to Ciarán Keegan and Aisling Leonard of Scoil Chonglais for their assistance with the inter-rater coding of the discussion forums. Also of Scoil Chonglais, I would like to thank Marie Fluskey and Kevin Browne for their moral and practical support.

And of course, to Róisín, Siobhán, Angela and Ivan O'Toole: I'm sorry it took so long.

I would like to acknowledge the support of Fiona Hartley, CEO, County Wicklow VEC, and Martin Philips, Education Officer, County Wicklow VEC, and to thank them for their continuing assistance and advice. Finally, I would like to express my gratitude to County Wicklow Vocational Education Committee for their generosity in the allocation of a grant to support this research.

Contents

1 Introduction **1**

1.1 Research Problem and Relevant Issues *3*

1.2 Overview of Research Methods and Limitations *5*

1.3 Outline of the Report *10*

2 Theoretical Context I: Leadership Theories and Models **13**

2.1 Perspectives on Leadership *14*

2.2 Theories of School Leadership *21*

2.3 School Leadership Models *33*

2.4 Policy and Legislative Influences *43*

2.5 Discussion *53*

3 Theoretical Context II: Approaches to School Leadership Development **57**

3.1 School Leadership Development *58*

3.2 Supporting Continuing Professional Learning *66*

3.3 Professional Knowledge *81*

3.4 Learning Communities *86*

3.5 Virtual Learning Environments and School Leadership Development *92*

3.6 Discussion *105*

4 Research Methodology and Methods **111**

4.1 Participatory Action Research and Case Study *113*

4.2 Ethical Considerations *117*

4.3 LDS LIVE: A Case Study *120*

4.4 Discussion *138*

5 LDS *LIVE*: Implementing a Virtual Learning Environment **141**

5.1 LDS Professional Development Programmes *143*

5.2 Implementing a Virtual Learning Environment *146*

5.3 Procurement and Implementation *156*

5.4 Observations on the Development of LDS LIVE *168*

5.5 Phases of VLE Development *171*

5.6 Discussion *176*

6 Presentation and Analysis of Research Data 179

6.1 Research Population *181*

6.2 Questionnaire Data *182*

6.3 Patterns of User Access to LDS LIVE *194*

6.4 Discussion Forum Content Analysis *209*

6.5 Discussion *217*

7 Implications and Conclusions 223

7.1 Reviewing the Research Objectives *223*

7.2 Research Elements *224*

7.3 Conclusions on Policy Processes and Project Management *234*

7.4 A Model for CMC-Supported Professional Learning *237*

7.5 Elements of the Model *246*

7.6 Applying the Model: Implications for Policy and Practice *251*

7.7 Directions for Further Research *253*

7.8 Conclusion *254*

8 Appendix 1: Memorandum of Understanding 255

9 Appendix 2: Questionnaire 259

10 References 269

Tables

Table 1: Example of Case Method Analysis (Argyris, 1999: 63) 75

Table 2: Seddon-NCSL indicators of learning behaviour in online communication 104

Table 3: Matrix of user data derived from VLEs 105

Table 4: Interaction analysis model for examining social construction of knowledge in computer conferencing.. 130

Table 5: Critical Enquiry in a Text-Based Environment: Community of Enquiry Coding Template (Garrison, R. D. et al., 1999: 89) 131

Table 6: Codes and samples indicators for analysis of social presence 135

Table 7: Codes and sample indicators for analysis of cognitive presence 136

Table 8: Inter-rater agreement for social presence and cognitive presence coding 138

Table 9: Partial framework to support the internal evaluation of LDS *LIVE* 165

Table 10: LDS team member representation by school sector 182

Table 11: LDS team member representation by school type 182

Table 12: School leadership position held by LDS team members 183

Table 13: Number of LDS team members associated with multiple CPD programmes 183

Table 14: Number of LDS team members associated with CPD programmes 183

Table 15: School leadership competencies rated as 'important' or 'very important' by LDS team members 185

Table 16: Frequency of ICT-related activity undertaken by team members 187

Table 17: Levels of access to virtual learning environments other than LDS *LIVE* 188

Table 18: Supports for the professional development of school leaders rated as 'effective' or 'very effective' by LDS team members 189

Table 19: Professional development activities for newly-appointed school leaders rated as 'effective' or 'very effective' by LDS team 190

Table 20: Strategies identified by LDS team as effective in supporting the professional development of newly-appointed school leaders 190

Table 21: Objectives for the development of a VLE for school leadership development rated 'important' or 'very important' by LDS team 192

Table 22: Contributions made by a virtual learning environment to the professional development of school leaders identified by LDS team members 193

Table 23: LDS *LIVE* organisational structure of online communities 195

Table 24: Details of online communities established within LDS *LIVE* 197

Table 25: Details of contributions of online discussion forums 205

Table 26: Overview of discussion forums identified for content analysis 207

Figures

Figure 1: Role Clarity and Personal Competencies for Principals (Hay Group, 2003) 36

Figure 2: The KLP model of educational leadership (Ministry of Education, New Zealand, 2008) 37

Figure 3: LDS School Leadership Profile (LDS 2002, 2007) 40

Figure 4: LDS Leadership Framework (c.2006) 41

Figure 5: Processes within an activity (Hew & Cheung, 2003) 100

Figure 6: Salmon's model of teaching and learning online 102

Figure 7: Seddon-NCSL model of online learning behaviours 103

Figure 8: Conceptual Model for an *Electronic Portfolio Environment* 152

Figure 9: Screenshot from discussion forum on prototype LDS VLE 155

Figure 10: Screenshot of Reflective Leadership e-Portfolio 155

Figure 11: Ratio of users visiting online communities 199

Figure 12: Ratio of visits to grouped communities (all visits) 201

Figure 13: Ratio of users visiting online communities on more than five occasions 202

Figure 14: Interaction Analysis Model knowledge phases identified in online discussion forums 210

Figure 15: Interactive Analysis Model knowledge sub-phases identified in online discussion forums 211

Figure 16: Categories of social presence within online discussion forums 214

Figure 17: Categories of cognitive presence within online discussion forums 216

Figure 18: Relationship between communities of practice and virtual learning environments 244

Figure 19: Model of CMC-Supported Professional Learning 248

Equations

Equation 1: kappa equation for two raters 137

Equation 2: Fleiss' generalised kappa 137

Abbreviations

ACCS	Association of Community and Comprehensive Schools
ASTI	Association of Secondary Teachers Ireland
CMC	Computer-Mediated Communication
CPD	Continuing Professional Development
CPL	Continuing Professional Learning
CPPD	Continuing Personal and Professional Development
DES	Department of Education & Science
ICT	Information and Communication Technology
INTO	Irish National Teachers' Organisation
IPPN	Irish Primary Principal's Network
JMB	Joint Management Body
LDS	Leadership Development for Schools
NAPD	National Association of Principals' and Deputy Principals
NCCA	National Council for Curriculum and Assessment
NCSL	National College for School Leadership
PDA	Principals' and Deputy Principals' Association
RTUNI	Regional Training Unit, Northern Ireland
TLS	Teaching Learning Scotland
TUI	Teachers' Union of Ireland
VEC	Vocational Educational Committee
VLE	Virtual Learning Environment

1 Introduction

Providing for the continuing professional learning needs of those within formal positions of leadership impacts upon numerous spheres of human activity. Regardless of the nature of the objectives associated with an organisation, effective leadership is consistently linked with the achievement of these goals. Emerging concepts move beyond seeing the leadership role as solely concerned with the realisation of organisational or systemic objectives. Increasingly, leaders are charged with redefining not only the characteristic practices of their organisation, but they must also address the rationalisations that underpin these activities. Accordingly, central to the challenge of leadership is the capacity to act in situations that are characterised by complexity, uncertainty and, from time to time, dissonance. Nowhere are these challenges articulated with more avidity than in the field of school leadership.

As an example of complex social interaction, leadership remains problematic as an area of investigation. A starting point for the present research – and a theme that will be addressed within the report – is that there are a range of competencies associated with effective school leadership that are developable. Consequently, a primary consideration for systems of formalised education is to identify means by which the continuing professional development of school leaders can be supported.

Background to the Research

As schools continue to try to meet the challenges that arise within individual organisations and from the communities that they are established to serve, ever greater attention is paid to the role of school leaders. The contemporary educational context – which is characterised by an emphasis on individual and institutional accountability and the emergence of a comprehensive regulatory framework – has high expectations of school leaders. Despite these expectations, the school leadership role is notoriously difficult to quantify. While the formal positions of principal and deputy principal are most closely associated with leadership, the achievement of sophisticated educational objectives is increasingly reliant on the development

of leadership structures at multiple levels within schools. Consequently, the continuing professional development of school leaders is identified as a priority in most formal systems of education.

The present research arises from moves to implement a virtual learning environment as a support for the continuing professional learning of school leaders in Ireland. The use of computer-mediated communication (CMC) technologies is an increasingly common feature of professional learning. Despite the importance of leadership development and the significant resources required in the implementation of online learning environments, there are few empirical studies that address the impact of these environments on professional learning for school leaders. Nevertheless, virtual learning environments and other implementations of CMC technologies are identified as important additions to programmes of school leadership development.

The research draws on a case study of the implementation of a virtual learning environment. The environment is in support of the work of the *Leadership Development for Schools* (LDS) initiative[1]. LDS is an organisation charged with the design and delivery of continuing professional learning initiatives for school leaders in Ireland. While the population engaged in the implementation of the initiative is relatively small, the research affords an opportunity to identify the issues of engaging school leaders in professional development initiatives that include the use of an online learning environment. Also, studies on virtual learning environments for professional development tend to concentrate on the experiences of programme participants. The focus on the LDS team in the present study represents access to a novel research population.

An important consideration with respect to the case study is that the influence of LDS team members reaches beyond their engagement with practitioners within the formal programmes. The organisation has, not least through the preparation of information and policy documents, helped to shape concepts of effective school leadership in Ireland. The initiative has also sought to address leadership practices with reference to prevailing theories of school leadership. An additional consideration is to compare approaches to school

---

[1] The Leadership Development for Schools website is located at: www.lds21.ie.

leadership development with approaches in other jurisdictions. The most notable influences here are the *National College for School Leadership* (England), *Learning and Teaching Scotland*, and the *Regional Training Unit for Northern Ireland.*

It is also noted that the desire to include a virtual learning environment in the various continuing professional learning programmes emerges from a period of significant legislative and policy reform. Recent decades have witnessed a significant increase in attention paid to the policies and practices of individual schools in Ireland. For example, the *School Development Planning Initiative* (SDPI), established in 1999, emphasised practices of internal school planning and self evaluation as the cornerstones of school improvement. Support materials and training were provided with a view to aiding the preparation of a formal school development plan. From the perspective of school leaders – and in particular, the school principal – the expectations were that effective leadership necessitated the development of a culture of collaborative planning. While schools would have the freedom to develop plans reflecting their own histories and cultures, all practices were to be gauged with reference to an emerging regulatory framework. These policies in turn reflected increased societal expectations with regard to what constitutes effective schooling. By extension, the combination of the articulation of high expectations and the linking of these expectations to collective planning and evaluation continue to influence the school leadership role. Similar expectations are evident with respect to the more formal, external, evaluation of schools conducted under the *Whole School Evaluation* (WSE) initiative.

In tandem with an emphasis on the importance of effective school leadership to the achievement of educational goals is the question of how to support the continuing professional learning of school leaders. The challenges that face school leaders give rise to calls for appropriate training and development to enable leaders to meet these challenges. It is with the development of a specific continuing professional learning intervention – the implementation of a virtual learning environment – that this research is concerned.

1.1 Research Problem and Relevant Issues

Having identified a virtual learning environment as a desirable component of a programme of continuing professional learning, issues relating to design and implementation are

foremost. In the context of the present research, development of the environment is the remit of the LDS initiative. Following the establishment of LDS in 2002, the development of an online component was identified as a core objective. From that time, members of the LDS team worked on the design and implementation of a virtual learning environment. The adoption of a technological innovation such as this represents an ambitious objective for the organisation. Although the use of online environments to support school leadership development is increasing, there are few empirical studies on their effectiveness. Consequently, the development of a model or framework to guide the design and implementation of the environment is problematic. A related issue is that the integration of a virtual learning environment into a structure of existing practices is potentially disruptive. Incorporating an online environment into continuing professional learning initiatives simultaneously raises possibilities and poses challenges. In response to these challenges, the objective of the research is to develop a conceptual model which will steer the design and implementation of a virtual learning environment for continuing professional learning.

Research Questions

With reference to a theoretical context, issues arising from a case study will provide the foundation for the development of the proposed model. In pursuit of this research objective, a number of research questions are identified:

What is the current understanding of school leadership and approaches to continuing professional learning for school leaders?

In establishing a theoretical context to support the research, attention is paid to prevailing concepts of school leadership. This examination will also highlight the key skills and competencies associated with school leadership roles. Furthermore, the influence of theories of school leadership, leadership models, and educational policy on the shaping of leadership action will be addressed.

What models of professional development for school leadership are used to develop or enhance leadership competencies?

Extending the theoretical context, what conclusions can be drawn in relation to the methods used to support the continuing professional learning of school leaders? Consideration of this question will be supported by analysis of continuing professional learning initiatives.

The analysis will also identify supports and practices that are considered to be effective for school leadership development. An understanding of leadership development approaches will identify the contexts into which an innovation such as a virtual learning environment is to be introduced.

With respect to the case study of the LDS virtual learning environment, how effective is the development and deployment of a virtual learning environment in supporting continuing professional learning for school leadership?

Drawing from research findings relating to the implementation of the LDS virtual learning environment, what conclusions can be identified with respect to the use of an online environment to support school leadership development? Addressing this research question will entail qualitative and quantitative analyses of the use of the environment. Findings will also emerge from an examination of the processes of designing and implementing the virtual learning environment. These findings will provide important benchmarks for the development of the proposed model.

What are the key elements of a model to guide the future use of CMC in support of continuing professional learning?

The key objective of the research is the development of a model to inform the use of online environments for CMC-supported professional learning. Constituent elements of the model will be derived from findings and conclusions arising from the case study. The appropriateness of these elements will be assessed with reference to the theoretical context developed to underpin the research. This objective will also identify the appropriateness of the research approach as a means to develop a model of CMC-supported professional learning.

1.2 Overview of Research Methods and Limitations

The nature of the research topic suggests that careful consideration should be given to the selection of research methods. The central theme of the research – continuing professional learning – is a complex social activity. Consequently, there are difficulties in the identification and testing of hypotheses with respect to this area of human activity. To address some of the challenges inherent in examining activities such as professional learning in social contexts, a number of research methodologies and methods have emerged. Among these are approaches such as ethnography, phenomenography, and action research.

A key consideration is that of researcher objectivity. The present researcher is closely involved with school leadership practice and leadership development. Given the researcher's relationship to the case study – detailed below – the research methodology is identified as participatory action research. This approach is located within the wider tradition of action research. While the methodology does not specifically adopt the *observe*, *reflect*, *plan* and *act* cycle of action research, the approach is within the action research tradition. This claim is supported with reference to characteristics of action research identified by McKernan (1999):

- The subject matter of the research is deemed problematic by researchers and practitioners alike;
- The nature of the problem is such that a clearer understanding can contribute to its resolution. Furthermore, the solution to the identified problem is likely to require a practical response;
- The full nature of the problem cannot be understood until exploratory research has been conducted. This research will also deepen the researcher's understanding of the issue;
- Methodologies such as case studies help to illuminate what is going on in the research context and to highlight how events are connected;
- The case study reflects the beliefs and perceptions of those in the research setting;
- Dialogue and the exchange of information is a hallmark of the approach.

More specifically, participatory action research is described as research in which members of the community participate in the design of the research and discussion on implications. During the research period, there was ongoing discussion and dialogue between researcher and those involved in the implementation of the virtual learning environment. Preliminary findings from the research were included in ongoing reviews of the project. This final report will also be incorporated into the review process of the virtual learning environment project.

Researcher and Research Context: Some Observations

In the participatory action research approach, the relationship of the researcher to the topic is of importance. As an instance of insider research, research findings must be concluded with

a degree of circumspection. However, the well-established protocols of the action science tradition, together with robust qualitative and quantitative methods, ensure that the research findings are defensible. It is appropriate to highlight the relationship of this researcher with the research context to the greatest extent possible. Accordingly, the present researcher is:

- An occasional and informal member of a project group established within LDS to oversee the development and implementation of a virtual learning environment;
- An Associate (part-time) Member of the *Leadership Development for Schools* (LDS) initiative, appointed in 2006, and working on the post-primary Tánaiste programme;
- A practicing school principal in a post-primary school, appointed in 2005;
- The author on a commissioned report on the use of virtual learning environments for school leadership development, commissioned by LDS, and presented in February 2004.

As described by Mercer (2007), conducting educational research from the position as an insider is a 'double-edged sword.' On the positive side, the researcher is granted access to activities and resources which may be unavailable to the external consultant. The participatory researcher will often have the benefit of rapport and familiarity with other practitioners. The researcher will also have an initial understanding of the social setting of the research. The caveats of participatory research include proximity to the topic and the clouding of research objectivity and interpretation.

Data Sources

In support of the development of a model of CMC-supported professional learning, the study draws on a number of research sources. The primary source is an examination of the development of a virtual learning environment to support school leadership development in Ireland. The case study includes a number of discernible phases, each of which contributes to an understanding of issues influencing the inclusion of CMC technologies in continuing professional learning initiatives. Looking at a real-world example of the integration of technology into professional development highlights issues relating to leadership priorities. It also identifies approaches to continuing professional learning and the impact the introduction of CMC technologies has on existing approaches to professional learning. While the case

study is limited in scope, it does expose the influential role played by the designers of continuing professional learning initiatives.

By way of an online questionnaire, programme designers – that is, the LDS team – were asked to identify what they considered to be important leadership competencies. They were also asked to identify what methods and approaches they regarded as being effective supports for school leadership development. The questionnaire also required the team to report their own use of ICT and to identify how they considered that a virtual learning environment could be used to enhance continuing professional learning. The objective here is twofold. Given that the LDS team hold primary responsibility for the development of continuing professional learning programmes that will include the integration of a virtual learning environment, then their dispositions towards CMC-supported learning will be influential. A second consideration is that engagement with a virtual learning environment requires at least some proficiency in the use of information and communication technologies. Therefore, it is necessary to establish levels of access to, and use of, ICT on the part of programme designers so that these can be accounted for in the research. At a first level of analysis, it must be possible to account for access to appropriate ICT when examining patterns of access to a virtual learning environment. While similar data on the use of ICT by all programme participants would enhance our understating of CMC-supported professional learning, the gathering of this data is beyond the scope of the study.

A related source of data is an examination of the use of the virtual learning environment by programme participants and team members. While there are limitations to the conclusions that can be drawn from statistical analyses of the use of an online environment, the data can contribute to an assessment of associated objectives. An examination of patterns of engagement can support conclusions on the development of online communities of practice, for example. A further consideration is that it will be possible to compare the use of the system by the professional development programme designers – the LDS team – and programme participants.

Given that the objective of continuing professional learning is to further professional knowledge, both individually and collectively, then some analysis of learning within the online environment is required. One feature of learning within a virtual learning environment

is that the environment provides access to echoes of critical discourse. While contributions to online discussion forums may be imperfect records of cognitive processes and trains of thought, they do allow considered analysis of the development of new thinking and learning within a community. Assessing the nature of professional learning within an online community, therefore, requires an analysis of the content of forum discussions.

Two approaches to content analysis are used in the study. The first analysis, used to indicate general patterns of learning with the environment, utilises the Interaction Analysis Model (IAM) developed by Gunawardena *el al.* (1997). This model supports the identification on knowledge constructions within online learning environments. This initial analysis served to identify general patterns of learning and knowledge construction within the discussion forums. A further, more detailed analysis also sought to identify learning and cognitive activity with the forums. This analysis, which used the Community of Enquiry model, developed by Garrison et al. (1999), also identifies levels of social cohesion within the community. These elements are important when considering the role of an online community of practice in continuing professional learning.

A final consideration is that the findings arising from the analysis of these data must be examined in the light of a robust theoretical context. The conclusions drawn with respect to elements of the research provide the building blocks for the development of the proposed conceptual framework. Although the present research cannot confirm the effectiveness of the model as a support for professional development, the findings reinforce the need for such a model to guide the use of CMC technologies for continuing professional learning.

Limitations and Key Assumptions

Underpinning the research questions is a concern to establish if the examination of a relevant case study is sufficient to support the development of the proposed model. Implications arising from the case study, when examined in relation to a theoretical context derived from the literature, will, it is suggested, contribute to the development of the model. While it is noted that the proposed model is not a roadmap that will ensure the effectiveness of a virtual learning environment for continuing professional learning, it will suggest important considerations at planning, implementation, and review stages.

Of course, there are limitations to the conclusions that can be drawn from a study of this type and scale. In the first instance, the statistical data derive from an analysis of a single case study of the implementation of a virtual learning environment. Not only are there limitations in drawing conclusions from a single study, but the initiative at the centre of the case study is itself limited in scale. For example, attention has already been drawn to the role of the LDS team in designing and delivering programmes of continuing professional learning. At the time of analysis, the total number of LDS team members was 53. This comprised fourteen fulltime members and 39 part-time members. In addition, the total number of users – including team members and programme participants – registered within the virtual learning environment was approximately 1320. Further, the very nature of an online learning community – characterised by the periodic establishment and termination of discussion forums, fluctuating populations, and irregular patterns of activity – means that the data derived from the analysis can only be considered as a snapshot of the environment at a given point in its development. These factors demand that all conclusions and implications, together with the proposed model, must be examined with an appropriate degree of circumspection. Nevertheless, the research methods employed are deemed adequate to provide the necessary data to support the development of the conceptual model.

A final consideration is that the research is subject to a memorandum of understanding between the researcher, the *Department of Education & Science*, and the *Leadership Development for Schools* initiative. The memorandum, which imposes some reporting and publication restrictions, can be examined in Appendix 1 of this dissertation.

1.3 Outline of the Report

Following an introduction to the research, Chapter Two establishes the first part of the theoretical context: theories of leadership and leadership models. The chapter examines a number of established theories and approaches in the field of research on leadership. Focusing on school leadership, theories such as instructional leadership, transformational leadership, constructivist leadership and system leadership are introduced. The objective is to address the manner in which school leadership is understood. A number of influences on school leadership are identified. Examples here include the emergence of a comprehensive policy framework and the increased emphasis on collaborative planning at school level.

Chapter Three extends the theoretical context to incorporate approaches to school leadership development. This includes a consideration of the nature of professional knowledge and continuing professional learning. Approaches such as reflective practice and blended learning are critiqued and the role of learning theory is identified. This section of the report also introduces the importance of communities of practice as contexts for both leadership action and for continuing professional learning. A consideration of online communities of practice focuses discussion on the role of virtual learning environments for school leadership development. Finally, methods to assess the effectiveness of an online learning environment as a support to professional learning are discussed.

Chapter Four establishes the methodologies informing the research and the research methods employed. The appropriateness of participatory action research as a methodology is examined in this section and a number of ethical considerations are introduced. The key data sources for the study are also introduced. Briefly, these are:

- A case study examination of a virtual learning environment introduced by the *Leadership Development for Schools* initiative;
- An online questionnaire to examine the experiences and dispositions of members of the LDS team with regard to virtual learning environments;
- A statistical analysis of patterns of use of the Leadership Development for School's virtual learning environment, LDS *LIVE*;
- An analysis, using established content analysis methods, of discourse in online discussion forums within the virtual learning environment.

In Chapter Five, details of the case study referred to above are presented. The case study highlights a number of issues relating to the use of a virtual learning environment to support the professional development of school leaders. Conclusions on the case study contribute to the identification of the proposed model of CMC-supported professional learning.

The data from the questionnaire, statistical analysis of user activity, and content analysis of forum discussions are presented and analysed in Chapter Six. Findings are assessed with reference to both the theoretical context and to the implications arising from the case study.

The final chapter, Chapter Seven, reviews the main findings of the research. The chapter also includes a proposed model of CMC-supported professional learning. Implications for policy and practice arising from application of the model are identified.

2 Theoretical Context I: Leadership Theories and Models

Establishing a theoretical context for the development of a model of CMC-supported professional learning requires consideration of theories of leadership. While references to the need for effective leadership are evident in the most prominent spheres of human action, there remains much that is unknown about the development and application of leadership skills. Despite the persistent linking of leadership with the achievement of organisational and systemic goals, descriptions of leadership remain problematic. These challenges prompt the development of multiple theories, models, and descriptions of effective leadership. At times, however, these multiple theories serve to reinforce the lack of agreement in relation to concepts of leadership. Difficulties in reaching agreement on what constitutes effective leadership contribute to difficulties in developing effect continuing professional learning strategies of leaders.

These challenges are equally true with respect to the case of school leadership development. In the development of the theoretical context, a number of general theories of leadership are examined. One of the common characteristics of leadership is that it is contextualised in complex social situations. In the field of school leadership, the legacy of many associated theories and models can be traced to approaches emerging from areas such as commercial and military leadership. As the field has developed, these established theories have been reworked to cater for the needs of educational researchers and practitioners.

While the study of school leadership is now well established as an autonomous discipline, there are still significant gaps in the knowledge base. One area where there is increased interest is in the continuing professional learning of school leaders. The position detailed here is that there are multiple influences on what is regarded as effective leadership and, consequently, what are considered effective interventions in support of leadership development. Two primary influences are examined in this section of the report. First, there

is the influence of theories of leadership and leadership models. Although theories of school leadership are certainly influential, they are seldom derived from empirical studies. While they may include observations of effective leadership behaviours and competencies, they invariably seek to identify what leaders *should* be doing. An additional feature is that generic theories of leadership may be incorporated into leadership models developed in support of particular initiatives.

The second influence identified relates to the existence of a policy and regulatory framework. This framework, while reflecting societal and systemic expectations of school leaders, shapes everyday leadership practices. The influence of the regulatory framework is not divorced from the influence of theory. Indeed, a feature of policy development is the incorporation of concepts derived from the literature. However, the inclusion of concepts of leadership into the language of policy is not confirmation that significant changes in practice will follow. It fact, it may be argued that there is a deficient relationship between theories of school leadership and the policies that influence the practice of school leadership. This relationship must be accounted for in the design of approaches to school leadership development.

2.1 Perspectives on Leadership

Although leadership is a well-established area of study, many of the initial perspectives on leadership derive from the military and commercial domains. Aristotle (384-322 BC) – examining the characteristics of military leadership – proposed that leaders seek to achieve goals in the face of considerable uncertainty. The achievement of these goals requires a leader to exert influence on followers. For Aristotle, leadership encompassed three interrelated approaches to influencing followers: appeal to their character (éthos), appeal to their reason (lógos), and appeal to their emotions (pathos) (Shay, 2000). This classical perspective on leadership reflects the core of some contemporary descriptions of leadership as being a process of influence (Bush & Jackson, 2002; Northouse, 2004). However, defining leadership as a process of influence is only one possible starting point in seeking to better understand the competencies and actions associated with effective leadership.

It quickly becomes evident that it is not enough for leaders to influence or shape the behaviour of others: they must also decide when, where, and how influence will be exerted

(Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000). Because leadership action is located within complex social contexts, leaders require skill in interpreting these contexts. They must be skilful in assessing the characteristics of a leadership problem from multiple perspectives. Other competencies such as self-objectivity, self-reflection, the ability to judge the suitability of proposed solutions, and the capacity to devise approaches suited to the social context are also required. Furthermore, leadership action will be informed by an understanding of the key principles, concepts, and facts pertaining to the situation. This blend of leadership competencies, skills and knowledge may be categorised as leadership wisdom (Mumford, Marks, Connelly, Zaccaro, & Reiter-Palmon, 2000: 19).

While the theme of leadership wisdom may resist empirical examination, there are many studies which examine the behaviours and attitudes of leaders. These studies support the development of a range of perspectives on leadership. These perspectives facilitate the identification of patterns of leadership behaviour as well as exploring the impact that these behaviours have on individuals and organisations. Theories of leadership are not restricted to a focus on observable behaviour. Attitudes, knowledge, and skills are also important elements of a leadership framework. In addition, the environment within which leadership action takes place must also be incorporated if models are to contribute to a greater understanding of effective leadership. A number of the most influential perspectives on leadership are examined here.

Trait Theory

Considerable attention has been paid to the personality traits of leaders. The defining feature of *trait theory* is the belief that physical and personality characteristics are central to the effectiveness of leaders. Trait theory is frequently associated with the so-called 'Great Man' concept of leadership. Implicit in early examples of the model is that leadership aptitudes are to be found predominantly in white males from a military background (Bolden, Gosling, Marturano, & Dennison, 2003: 6). The theory concentrates almost exclusively on the characteristics of the individual leader and holds that leadership qualities are largely innate and remain relatively constant over time. Arising from Stogdill's (1974) survey of leadership traits, and summarised by Northouse (2004: 17), ten characteristics that are positively associated with leadership are identified. These are:

- Drive for responsibility and task completion;
- Vigour and persistence is pursuit of goals;
- 'Venturesomeness' and originality in problem solving;
- Drive to exercise initiative in social situations;
- Self-confidence and sense of personal identity;
- Willingness to accept consequences of decision and action;
- Readiness to absorb interpersonal stress;
- Willingness to tolerate frustration and delay;
- Ability to influence other persons' behaviour; and
- Capacity to structure social interaction systems to the purpose at hand.

Morley et al. (1998: 209) note that up to approximately 1950, studies tended to seek to identify the 'exceptional characteristics' that set leaders apart. These characteristics were considered to be innate and to include:

- Intelligence
- Initiative
- Dependability
- Lateral thinker
- Self-assurance
- Maturity
- Visionary
- Social well-being
- Need for achievement

- Need for power
- Goal-directedness

Within research on leadership traits, lists of generic, over-lapping, personal qualities emerge. The framework can be used to identify practitioners in procession of desirable characteristics and to assign them to leadership position within an organisation. However, studies within the tradition have failed to clearly identify a matrix of personality trait requirements for successful leadership (Bolden et al., 2003: 6-7).

Stogdill (1948; 1974), for instance, suggests that a person does not necessarily become a leader simply because he or she possesses certain traits. Rather, the traits that leaders possess must be relevant to situations in which they are functioning (Northouse, 2004: 16). While theories of leadership will invariably encompass personal characteristics, examination of these characteristics without reference to context and circumstance will provide little insight into leadership in organisations (Morley et al., 1998: 209-210).

Behavioural Approaches

The limitations of the trait model encouraged researchers to focus on the behaviours of organisational leaders. The central hypothesis of the 'behavioural model' is that leaders can be differentiated from 'non-leaders' through an analysis of leaders' behaviour. One important series of studies carried out by Stodgill in the 1940s sought to identify independent dimensions of leadership behaviour (Morley et al., 1998: 210-211). The *Ohio State University Leadership Studies* focused on identifying key dimensions of leadership behaviour. Drawing from a list of over 1000 leadership 'dimensions,' the researchers proposed two categories to encapsulate leadership behaviour: *initiating structure style* and *considerate style*. In general terms, the *initiating structure style* was coined to describe the extent to which a leader defines his or her role and the roles of others in achieving organisational objectives. The *considerate style* addresses issues such as the establishment of trust and mutual respect and the extent to which these elements exist in relation to leaders and followers. The study suggests that more successful leaders evidence high initiating structure style and high considerate style.

Also within the behaviourist tradition is McGregor's (1960) research, which is detailed in *The Human Side of Enterprise*. McGregor does not treat 'leadership' directly, but focuses on the related activity of 'management.' In essence, McGregor put forward the hypothesis that the strategies used by a leader are influenced by his or her beliefs about human nature. In support of the hypothesis, two perspectives – Theory X and Theory Y – are proposed. A leader or manager subscribing to a Theory X world-view would, according to McGregor, hold that an average person has an inherent dislike of work and will take every opportunity to avoid work. Therefore, humans must be controlled and coerced to achieve the goals of the organisation. Furthermore, Theory X suggests that the average worker in un-ambitious, seeks security and welcomes close direction from superiors in the organisational hierarchy. In contrast, a Theory Y world-view would hold physical and mental work to be a natural human activity. In appropriate circumstances, a person seeks greater responsibility and will exercise self-direction to achieve goals to which they are committed. Significantly, the capacity for organisation, ingenuity and creativity is deemed to be widely distributed in the population. It is the prevailing structure of contemporary workplaces that prevents the effective utilisation of these skills in a significant majority of workers.

Contingency Leadership Theories

The concept of contingency leadership emerges largely from the work of Fiedler (1967), who emphasised that is was not possible to develop a unified model of ideal leadership. Rather, leadership frameworks must embody situational variables and that the match – or mismatch – of individual leaders to context was a key element of effective leadership. Also for Fiedler, leadership is closely associated with appointment to formal positions of authority; the leader is 'the individual in the group given the task of directing and coordinating task-relevant group activities' (Fiedler, 1967: 8).

Emerging principally from the business arena, the development of contingency theory sought to cater for the many environmental variables that shape leader action. The effective leader is likely to draw upon a number of different strategies depending on the desired goals and the context of the leadership task. A key aspect of contingency theory is to attempt to match individual leaders to appropriate situations. In essence, 'effective leadership is *contingent* on matching a leader's style to the right setting' (Northouse, 2004: 109). A defining characteristic of the theory is that leaders may be very effective in one context, but

relatively ineffective when placed in a different context, or when the situation alters markedly. The theory supports the generalisation that there is no 'one right way' to achieve leadership objectives.

A related model is that of 'path-goal' theory. The term 'path-goal' is used to convey the belief that one of the key roles of effective leadership is clarifying the paths to be taken by others to achieve work goals. Four leadership styles – directive, supportive, participative and achievement-oriented – are associated with the theory. The path-goal approach also proposes two categories of situational variables: the personal characteristics of the subordinates and the environment of the subordinates (Morley et al., 1998: 216).

Transformational Leadership

Transformational leadership emphasises the influence of ethics, morals, emotions, standards, and values on leadership action. The approach is also concerned with the issue of worker motivation (Northouse, 2004: 169). Transformational leadership is often contrasted with *transactional* leadership. Burns (1978) differentiates between transactional and transformational leadership on a number of points. For instance, transactional leadership is characterised by strategies such as: the exchange of rewards for effort; searching for deviations from rules and norms and the taking of corrective action; intervening only when standards are not met; and the avoidance of decision-making. In contrast, transformational leadership is characterised by: leadership charisma; providing a sense of mission and vision; the communication of high expectations; expressing important purposes in simple ways; promoting intelligence, rationality and problem-solving; and giving individual consideration and attention (Morley et al., 1998: 218). The following observation on transformational leaders is made by Bass (1990: 2):

> Superior leadership performance—transformational leadership—occurs when leaders broaden and elevate the interests of their employees, when they generate awareness and acceptance of the purposes and mission of the group, and when they stir their employees to look beyond their own self-interest for the good of the group. Transformational leaders achieve these results in one or more ways: They may be charismatic to their followers and thus inspire them; they may meet the emotional needs of each employee; and/or they may intellectually stimulate employees.

The concept of transformational leadership is important for leadership development. In contrast to, say, trait theory of leadership, the approach suggests that organisations can take steps to identify potential transformational leaders and that transformational leadership can be promoted by way of suitable training strategies.

Developable Skills and Capabilities Approach

Other approaches also identify the potential development of leadership skills and capacities. The skills approach is concerned with leader behaviour and it this respect is shares similarities with the trait and behaviourist approaches. However, leadership capability is not considered to be limited to those fortunate to have been born with the requisite characteristics: the leadership skills approach looks at aptitudes and practices that can be learned (Northouse, 2004: 35). The model holds that knowledge and skills emerge, over time, as a result of education and experience (Mumford, Zaccaro et al., 2000). While focusing on leader skills, the approach emphasises that leaders are charged with addressing real-world problems, often with limited resources. Two issues are emphasised. First, the model does not serve as a direct counterpoint to trait theory: it does not propose that leaders are made, not born. Second, the approach emphasises that leadership exists in social contexts. Consequently, leadership skills are applied in relation to real-world contexts. Overall, the approach suggests that leadership skills can be developed and will operate in tandem with personality traits. The approach can be encapsulated in the view that '*skills* imply what leaders *can accomplish* whereas traits imply who leaders *are*' (Northouse, 2004: 26).

This brief treatment of approaches to leadership is sufficient to confirm that effective leadership is influenced by both individual competencies and social contexts. In attempting to gain a clearer understanding of leadership, three broad goals may be posited. First, there is the goal of identifying a matrix of leadership behaviours, skills and competencies. Second, there is the desire to be able to identify individuals who possess the desired leadership qualities to fulfil the role under consideration. Third, there is the need to identify strategies whereby leadership skills and competencies can be learned and developed, whether in established leaders or in emergent leaders. Each of these objectives must be addressed in the knowledge that both genetic and environmental factors will influence the likelihood of an individual occupying a leadership role (Arvey, Rotundo, Johnson, Zhang, & McGue, 2006).

That effective leadership is also correlated with knowledge, skills and experience is significant for research on continuing professional learning[2] .While the research suggests that certain innate personal characteristics are positively associated with leadership, there is also a range of developable skills that may be enhanced through exposure to suitable learning opportunities and supports.

2.2 Theories of School Leadership

Located within the broader conceptual framework of leadership, school leadership as a field of research is a relatively recent development. Increased interest in the study of school leadership is mirrored by an emphasis on effective leadership as a core requirement for the achievement of educational objectives. In short, effective schooling is underpinned by effective leadership. Although defensible claims arising from the research are limited, a number of features of effective school leadership are evident. Leithwood et al. (2008), based on a meta-analysis of leadership research, identify seven claims which, the authors argue, are supported by a variety of research activities. These claims intertwine with the most fundamental educational objectives, such as promoting student learning. Briefly, these claims are:

- School leadership is second only to classroom teaching as an influence on pupil learning.
- Almost all successful leaders draw on the same repertoire of basic leadership practices.
- The ways in which leaders apply these basic leadership practices, not the practices themselves, demonstrate responsiveness to, rather than dictation by, the contexts in which they work.
- School leaders improve teaching and learning indirectly and most powerfully through their influence on staff motivation, commitment and working conditions.

---

[2] In the literature and in policy documents, there are references to *continuing professional development* (CPD) and to *continuing personal and professional development* (CPPD). In this report, the term *continuing professional learning* is preferred and is considered to be synonymous with continuing personal and professional development.

- School leadership has a greater influence on schools and students when it is widely distributed.
- Some patterns of distribution are more effective than others.
- A small handful of personal traits explain a high proportion of the variation in leadership effectiveness.

Although the importance of context in the exercise of leadership action is emphasised, Leithwood et al. conclude that although leaders are sensitive to context, this does not imply that school leaders use qualitatively different practices in each context. What is proposed is that they employ combinations of the key practices identified about which are tailored to the needs of the context under consideration (Leithwood et al., 2008: 31). Again, the capacity to identify appropriate responses to given contexts is emphasised as a key leadership skill.

The influence of leadership on effective schooling has prompted the development of multiple theories of school leadership. Many of these theories reflect concepts established within the wider field. Consequently, the literature on school leadership includes terms such as transformational leadership, contingent leadership, moral leadership, and interpersonal leadership. Although emerging from fields such as commercial and military leadership, the theories have been reshaped to accommodate educational perspectives. In addition, a number of leadership frameworks – such as instructional leadership and distributed leadership – are closely associated with schooling. These and similar terms are now commonplace in the lexicon of school leadership. The characteristics of some of the more influential perspectives on school leadership are outlined below.

Instructional Leadership

Instructional leadership is targeted at improving student learning through the work of teachers (Bush & Glover, 2003: 12). The emphasis is on how school leaders influence teaching and learning. Instructional leadership encompasses key leadership activities such as: defining the school mission; managing the instructional programme; promoting school climate; talking with teachers; promoting teachers' professional growth; and fostering teacher reflection. The essence of instructional leadership is characterised by school principals working with teachers to promote classroom teaching (Stoll & Fink, 1996: 105).

This approach to school leadership is closely associated with research on school effectiveness. The formal leadership role of the school principal is emphasised and instructional leadership on the part of the principal is typified by attention to classroom activities and teaching methods. Direct observation of classroom practice, involvement in staff development, providing educational resources, and being visible on the school campus are also central to this approach (Lambert, Walker, Zimmerman, & Cooper, 2002).

The capacity for instructional leadership is identified as a desirable competency for school leaders in Ireland. The *National Education Convention*, which was established following the publication of the consultative document *Education for a Changing World* (Government of Ireland, 1992), brought together representatives from a wide-range of organisations. It was the view of these representatives that the role of instructional leader was the 'most neglected aspect of the principal's work in the school' (p. 43). In the report, the research correlating school leadership and school effectiveness is emphasised:

> This research has identified a strong relationship between positive school leadership and institutional effectiveness, and describes the successful principal as providing instructional leadership for the staff, creating a supportive school climate, with particular emphasis on the curriculum and teaching and directed towards maximising academic learning, having clear goals and high expectations for staff and students, establishing good systems for monitoring student performance, promoting on-going staff development and inservice, and encouraging strong parental involvement and identification with, and support for the goals of the school.
>
> (Coolahan, 1994: 42)

The position of instructional leadership as an identifiable theory of school leadership has been questioned. For example, Bush (2003) suggests that instructional leadership focuses on leadership influence rather than on the nature of leadership. Furthermore, the instructional leadership paradigm does not adequately cater for other dimensions of schooling, such as socialisation, welfare, and self-esteem (pp. 16-17).

Moral Leadership

A starting position for exploring the moral dimension of leadership is that it is not possible for either the culture of a school or its guiding philosophy to be value-free (Bottery, 1992). A 'moral leadership' approach focuses on the ethics and values of school leaders.

Leading schools requires 'principals with the courage and capacity to build new cultures based on trusting relationships and a culture of disciplined inquiry and action' (Fullan, 2003: 45). Before we can meaningfully discuss the function of leaders in education, we must also consider the culture and purpose of the educational institution that they are to lead. Considering the moral dimension of school leadership highlights the sometimes uneasy relationship between concepts of school leadership and school management. Difficulties in addressing the relationship are compounded by the lack of agreement on what differentiates management from leadership in schools. In general, management is closely associated with the achievement of stated school aims and objectives. It is intertwined with the identification and achievement of educational purpose (Bush, 2003: 1-5). Leadership is more closely associated with organisational dimensions such as values, motivations, and influence.

While it is neither appropriate nor possible to rigidly delineate between leadership action and management action, Sergiovanni identifies a number of 'value dimensions' which contribute to leadership effectiveness (Sergiovanni, 1990). The framework identifies dimensions such as management, planning, giving directions, extrinsic motivation and congeniality. These dimensions are compared to 'value-added dimensions' such as leadership, enhancing meaning, purposing, enabling teachers in the school, intrinsic motivation, and collegiality. However, the key concept of the framework is that both dimensions of leadership are required if schools are to achieve the standards that are expected of them (pp. 14-16). Theories of moral leadership, then, emphasise the linking of leadership action with the ethics of educational practice.

Transformational Leadership

The transformational leadership approach as applied to schools provides a framework that focuses on the process by which leaders try to influence educational outcomes. The theory emphasises efforts to increase the commitment of practitioners to the attainment of school objectives. The role of the school leader is to engage the support of teachers and to develop their ability to help to achieve the objectives of the school. The transformational leadership perspective is influential in education systems in Australia, Britain, New Zealand, and the United States of America. The term also appears in relation to the development of professional development programmes for school leaders in Ireland (Leadership Development for Schools, 2002).

Sergiovanni (2001) identifies two dimensions within transformational leadership: *leadership by building*, and *leadership by bonding*. At an initial stage, leadership by building focuses on arousing human potential and motivating practitioners to aspire to higher levels of achievement. When the aspirations of both leader and followers are raised, transformational leadership takes the form of *leadership by bonding*. This is characterised by leader and follower sharing a moral commitment to achieve the core purposes of the school. Transformational leadership by bonding emphasises the cultural and moral components of school leadership (Sergiovanni, 2001: 36). The emphasis is on the development and maintenance of a collaborative and professional school culture, fostering teacher professional development, and supporting teachers to solve problems effectively (Lambert et al., 2002: 39).

In schools, Burns' (1978) original contention that transformational leadership requires high levels of interdependence and cooperation between leaders and followers has implications for decision-making processes. While one strategy employed by school principals – the inclusion of teachers in decision-making – suggests a transformational approach, the available research suggests that principals tend to exclude or limit the involvement of teachers in the process. Rather, schools are characterised by leadership practices that suggest a narrow interpretation of the transformational leadership perspective (Blase & Anderson, 1995; Currie & Lockett, 2007). Although transformational leadership is typically located within the category of 'charismatic' leadership (Northouse, 2004) – and may therefore be deemed to rely on innate personality traits – there are findings from research to support the claim that transformational leadership skills are developable (Bass, 1990).

Distributed Leadership

Distributed leadership is a participative leadership framework. The theory incorporates a number of other perspectives such as shared leadership, participative leadership, collegial leadership, delegated leadership, democratic leadership, and dispersed leadership. It is underpinned by democratic ideals and is linked to shared leadership and empowerment. A key goal of a participative leadership approach is the building of shared commitment (Bush & Glover, 2003). The concept of distributed leadership in particular is a central theme in the

professional development programmes offered by the *National College for School leadership* in the UK[3]. Definitions of distributed leadership vary but it is possible to identify distinctive elements within the concept. A number of defining characteristics of distributed leadership are identified by Bennett et al. (2003):

- Distributed leadership highlights leadership as a feature of a group or network. The approach is characterised by the pooling of initiative and expertise. This mode of leadership is, therefore, contrasted with a notion of leadership arising solely within the individual.

- Distributed leadership embodies openness. The approach prompts a widening of the scope for membership of leadership groupings.

- Distributed leadership holds that expertise is distributed across many members of a community, and not located within the few. Furthermore, the pooling of expertise within a community or organisation prompts a dynamic that exceeds the sum of individual efforts.

Given the emphasis on participative decision-making and democratic ideals, distributed leadership holds obvious appeal for schools. These ideals are also central to conceiving of schools as professional learning communities (Hargreaves & Fink, 2006) and communities of practice (Wenger, 1998). However, while distributed leadership is consistently identified as a collection of best practices and management strategies, it is more correctly used as a lens to explore relationships between leadership and learning (Prestine & Scott Nelson, 2005).

Managerial Leadership

In schools, management is about the efficient and effective accomplishment of the school's current activities. Leadership is more concerned with shaping organisational goals and motivation of others. It involves 'inspiring and supporting others towards the achievement of a vision for the school which is based on clear personal and professional values' (Bush & Glover, 2003: 10). However, the delineation between management and leadership should not be overstated: both qualities are required for school leadership (Fullan,

---

[3] For a listing of NCSL publications on distributed leadership, see: http://www.ncsl.org.uk/publications-index/publications-distributedleadership.htm?sgroup=117

2001). Managerial leadership is comparable to the 'formal model' category of leadership identified by Bush (2003). Formal models assume that schools embody hierarchical systems and that managers use rational means to achieve goals. School principals exploit the authority associated with their formal positions and they are accountable to external bodies for the effectiveness of their schools (p. 37).

The manifestation of managerial leadership practices in schools may, in their most forceful forms, reflect a market-inspired managerialism. While concerns for effectiveness and quality populate the literature on schooling, the adoption of market conceptions of quality are questioned (Hogan, 1995). To take an example of note, the total quality management (TQM) model developed within the world of business was identified as a suitable foundation upon which to develop a model of school management (Murgatroyd & Morgan, 1993). While some TQM features – identifying strategic aims, developing a shared vision, constructing the organisation around teams, systematic daily management of the organisation, and the development of identifiers of quality – hold apparent appeal for schools, the relegation of ideology to the periphery is problematic. The authors, referring to critiques of the linkage of capitalism and schooling, state:

> We are not concerned here with such matters; this book is not intended to discuss the ideology of schooling, but to sensitise and help those now leading primary and secondary schools understand and respond to new contexts that governments have legislated. In general, across the world, such legislation has introduced elements of the marketplace so that schools now operate in what might perhaps be better termed a modified marketplace.
>
> (Murgatroyd & Morgan, 1993: 2)

However, the approaches embodied within managerial leadership are themselves evidence of a guiding ideology. Managerialism can be conceived of as a set of beliefs. The principle belief is that management is a valuable and worthwhile enterprise, and that better management will lead to a better world (Wright, 2001).

Postmodern Leadership

As with postmodernism as a general construct, there is little agreement on what are the defining characteristics of postmodern educational leadership. From this perspective, a practitioner will not be governed by established criteria or rule-sets (Lyotard, 1994).

Postmodernism holds that there is no objective reality and that different actors will have different interpretations of events. As a school leadership model, postmodernism offers few guidelines other that reinforcing the importance of the individual (Bush & Glover, 2003: 21).

Interpersonal Leadership

Interpersonal leadership focuses on the relationships leaders have with teachers, students and other stakeholders. The model promotes a collaborative approach and typically emphasises a moral dimension. Leaders in this model have advanced personal skills (Bush & Glover, 2003: 21). Closely aligned with collegiality, interpersonal leadership emphasises the importance of relationships and practitioner collaboration (Bush, 2003: 79). Leadership styles within this tradition are characterised by openness. Principals develop relationships with teachers that minimise status differences and teacher autonomy is actively supported (Blase & Anderson, 1995: 81). Interpersonal leadership enhances collegiality, which in turn fosters interdependence among practitioners. The development of 'natural interdependence', shared values, professional socialisation, and collegiality become objectives for school leadership (Sergiovanni, 2001: 67).

Constructivist Leadership

The theory and practice of constructivist leadership emerges from the principles of constructivist learning. These principles emphasise that adults and children learn through enquiry, participation, and reflection. Exploring meaning and constructing knowledge are the foundation of learning. A function of school leadership, therefore, 'must be to engage people in the processes that create the conditions for learning and form common ground around teaching and learning' (Lambert, 2002: 35). This entails viewing the school as an 'organic leadership community, one capable of living, growing, learning and transforming itself' (Szabo & Lambert, 2002: 235). In the construction of learning experiences, a school leader must recognise the relationship between social influences on the learning context and the personal interpretations of the learner with respect to the learning experience. Leadership is charged with supporting the key principles of constructivist learning: facilitating knowledge construction through reflection and collaboration within a community of learners (Garrison, D. R. & Anderson, 2003: 22-23).

Contingent Leadership

The contingent model of school leadership advocates adopting leadership styles that are best suited to the situation at hand. The contingent model focuses on the complexity of situations or problems that leaders may encounter and the manner in which they respond to these difficulties. Effective leaders must be able to adopt an approach appropriate to the situational context within which they are currently operating (Bush & Glover, 2003: 22). Although limiting their study to the school principal, Portin et al. (2003) examined modes of leadership within which a school leaders might be expected to operate. Many of these areas reflect theories of leadership previously discussed and are described briefly here:

- *Instructional Leadership*: Each school requires someone to ensure the quality of teaching and instruction.

- *Cultural Leadership*: The principal has an important role in promoting and maintaining the sense of tradition at the school. It is considered important to ensure that the climate in the school serves to support the attainment of school objectives.

- *Managerial Leadership*: Every school must pay attention to budgetary considerations, as well as issues such as scheduling, facilities, and transportation. Ensuring that teaching and learning occurs in a clean, safe school is an essential leadership task.

- *Human Resource Leadership*: School leaders in all sectors stress the importance of hiring and inducting teaching staff. The importance of employing suitable persons extends also to support and ancillary staff. Human resource leadership also encompasses professional development support.

- *Strategic Leadership*: Sometimes referred to as 'mission' or 'vision,' an essential leadership role is to ensure that the school's objectives are articulated.

- *External Development Leadership*: School principals need to develop relationships with external bodies and stakeholders.

- *Micropolitical Leadership*: Leadership within this area includes facilitating transactions between the other six areas identified.

On the basis of their research, the authors draw a number of conclusions. These include suggesting a reduction in reliance on classroom experience as the best indicator of leadership potential. Although teaching experience may be of value, the reasoning here is that 'the principalship is not necessarily an extension of teaching' (Portin et al., 2003: 42). Furthermore, the authors suggest that colleges of education should include complex tasks such as diagnosis and planning as part of principal preparation programmes (p. 43).

Leadership and Complexity Theory

Although not readily classifiable as a discrete theory of school leadership, the influence of complexity theory on the field is notable. Complexity theory focuses on adaptive systems, where components at a given level serve as the building blocks for components at another level (Mansfield, 2003: 9). The impetus for exploring complexity theory as a framework for school leadership is linked to the limitations of 'linear' thinking. In order for school leaders to fully meet the challenge of change, they must adopt the language and metaphors of complexity theory (Gibson, 2000). Two central concepts characterise complexity theory: boundaries and fitness landscapes. Boundaries define the exchanges between an organisation and its environment. These boundaries are defined not merely by a division between external and internal components. they are also defined by 'a leader's conception of the system's elements in a representation of the whole or any of its parts' (Gibson, 2000: 1). With respect to an individual school, the relationship between the organisation and its environment is an unpredictable one. More specifically, the relationships that define a school community are unpredictable: schools affect students, students affect their families, and families affect communities. In turn, communities affect families, and a cyclical pattern of influence is established (Mansfield, 2003: 118).

The second concept of interest within complexity is that of fitness landscapes. A fitness landscape is a useful tool to explore aspects of educational practice. For example, the relationship between two schools competing for students within a community can be modelled in terms of each school's 'fitness' to survive. The 'landscape' elements of the model are derived from analyses on internal structures and relationships as well as measures of relationships between internal and external elements (Mansfield, 2003: 168-169).

Linking complexity theory to school leadership emphasises three functions of leadership (Uhl-Bien, Marion, & McKelvey, 2007). *Adaptive leadership* refers to creative and learning actions that emerge from interactions within the organisation. *Administrative leadership* is related to control and reflects the organisational and bureaucratic functions of the school. Finally, *enabling leadership* seeks to 'catalyse the conditions in which adaptive leadership can thrive' and to manage the relationship between the administrative leadership and emergent leadership dimensions of the organisation (Uhl-Bien et al., 2007: 305). More specifically, the theory emphasises the importance of dialogue and storytelling as leadership practices:

> Strategic leaders articulate their visions by telling stories and promoting dialogue in which an organization's past, present, and future coalesce: stories and dialogue about our history; stories and dialogue about who we are; stories and dialogue about who we can become. Storytelling allows individuals to share their explicit knowledge and their implicit understandings, and over time, builds up a cognitive consensuality that identifies and defines the organization as an entity with a history and future.
>
> (Boal & Schultz, 2007: 426-427)

As well as building identity, leaders may also introduce disruption to the school organisation. Rather than identifying a desirable future state for the school and changing the organisational structure to achieve this state, leaders may 'push the organisation towards disequilibrium by introducing uncertainty and by visibly addressing conflict' (Plowman et al., 2007: 354).

System Leadership

While the most significant body of research on school leadership is within the school effectiveness tradition, there is increased appreciation of the role to be played by school leaders in systemic reform. System leaders do not focus on the performance of a single organisation or individual; they attend to the effectiveness of the system as a whole (O'Leary & Craig, 2007). While the framework recognises that leaders such as principals are typically associated with a single school, they also have opportunities and responsibilities to provide leadership for other organisations. Essentially, individual school improvement can only occur in the context of improvements in the system as a whole.

The framework emphasises the moral purpose of education and identifies a number of diverse roles occupied by system leaders (Hopkins, 2007). These include:

- Developing and leading educational improvement across local communities;
- Choosing to lead schools in extremely challenging circumstances;
- Developing a partnership with another school facing difficulties with a view to initiating improvements;
- Acting as a curriculum and pedagogic innovator and working to spread best practice across the system; and
- Working as a change agent or expert leader.

Fullan (2005a) grounds his work on system-level leadership on two strategies: networking and intelligent accountability. Networks of schools and professional learning communities are increasingly the focus for initiating improvements in educational provision. Recasting schools as professional communities emphasises the ideals of distributed leadership. Furthermore, schools become communities of continuous enquiry and exhibit a commitment to ongoing improvement (Hord, 1997). The concept of networks moves outside the traditional boundaries of the individual school. Networks of learning communities allow principals to learn from each other. They also seek to reduce the potentially damaging effects of competition between schools. Importantly, these networks emphasise improvement and knowledge construction within a framework which emphasises moral and ethical dimensions of learning and leadership (Fullan, 2005a).

The second strategy – intelligent accountability – emphasises the tensions characteristic of the treatment of accountability in education (Fullan, 2005a: 92-93). The strategy identifies that accountability has to marry two sometimes conflicting requirements. First, there is a need for defensible accountability to external agencies. Typically, this will be characterised as assessing the effectiveness of student learning. Second, there is a requirement for data on student learning to support improvements in teaching and learning. System development is dependent not only upon the availability of reliable data, but on agreement among practitioners on the interpretation of that data.

2.3 School Leadership Models

Approaches to school leadership can be explored further by consideration of leadership models. There are significant areas of overlap in what are characterised as theories of leadership and leadership models. The development of a leadership model usually entails the structured linking of leadership competencies, responsibilities, and objectives. A model may incorporate elements of the theories of leadership identified earlier. Leadership models are influenced by the socio-cultural environment within which they are framed. Therefore, a model developed by a professional representative group such as a trade union may emphasise certain characteristics and responsibilities of school leaders. These characteristics may differ in emphasis from a model developed by a government body or educational researcher. While the objective here is not to critically assess the characteristics of models developed by different constituencies, frameworks associated with the professional development of school leaders are of particular importance.

The complexity of the models proposed may vary considerably. Some models may be little more than descriptions of existing or desirable leadership roles. Others may incorporate the ideals and language of leadership theory as well as encompassing elements derived from leadership standards and the school improvement perspective. In general, however, the models reflect three recurring themes of school leadership: competencies, standards, and educational objectives. Individual school leaders are expected to posses the requisite skills and competencies to fulfil the role. They are also expected to perform their duties to identified standards. While this includes considerations such as discharging their duties in an ethical fashion, it also refers to ensuring that all members of the school community achieve high standards. This expectation leads to the third theme of educational objectives. While school leadership models may emphasise different elements of the role, school leadership is intertwined with the articulation of educational objectives. A primary function of school leadership is the creation of environments within which effective teaching and learning can be sustained. However, there is no agreement on what constitutes effective teaching and learning. This difficulty is further compounded by changes in emphasis in educational objectives that emerge over time in the midst of broader societal changes.

For the present research, the significance of leadership models is that they reflect leadership priorities identified within given frame of reference. This frame of reference is influenced by implicit and explicit expectations of schools. While models of school leadership inform practice, there is a reciprocal influence on theory arising from changing cultural and societal expectations. Leadership models also represent points of reference for the design of programmes designed to support the professional development of school leaders. They are necessary for identifying the skills and competencies that a programme intends to address. Arising from the identification of programme objectives – suitably informed with reference to a leadership model – consideration can then be focused on devising appropriate pedagogies and contexts to support professional development. Consequently, leadership models are frequently defined in relation to programmes of professional development.

Examples of School Leadership Models

As noted, models of school leadership may emerge from a number of contexts. They may be developed to illustrate the complexity of the leadership role, or to highlight the core skills associated with the role. They may also serve to identify minimum standards of leadership and to suggest desirable leadership behaviours. Four leadership models are discussed here. These models highlight the influence of context in the development of leadership frameworks. They also suggest that there are identifiable differences in emphasis where models emerge from constituencies wishing to highlight different aspects of the leadership role.

The Hay Group Model: Role Clarity and Personal Competencies for Principals

In Ireland, the *Hay Group Report: Defining the Role of the Primary Principal in Ireland* (Drea & O'Brien, 2003), is significant as an attempt to articulate aspects of leadership skills and leadership knowledge. In the report, which was commissioned by the *Irish Primary Principals Network* (IPPN), the authors identify fourteen competencies central to the role of school principal:

- Strategic Thinking
- Professional Expertise

- Inter-personal Understanding
- Team Leadership
- Teamworking
- Impact and Influence
- Achievement Drive
- Developing Others
- Challenge and Support
- Respect for Others
- Information Seeking
- Analytical Thinking
- Networking/Relationship Building
- Initiative

The report highlights 'role clarity and personal competencies' of the school principal. These factors are the core elements of a leadership model represented in Figure 1 below.

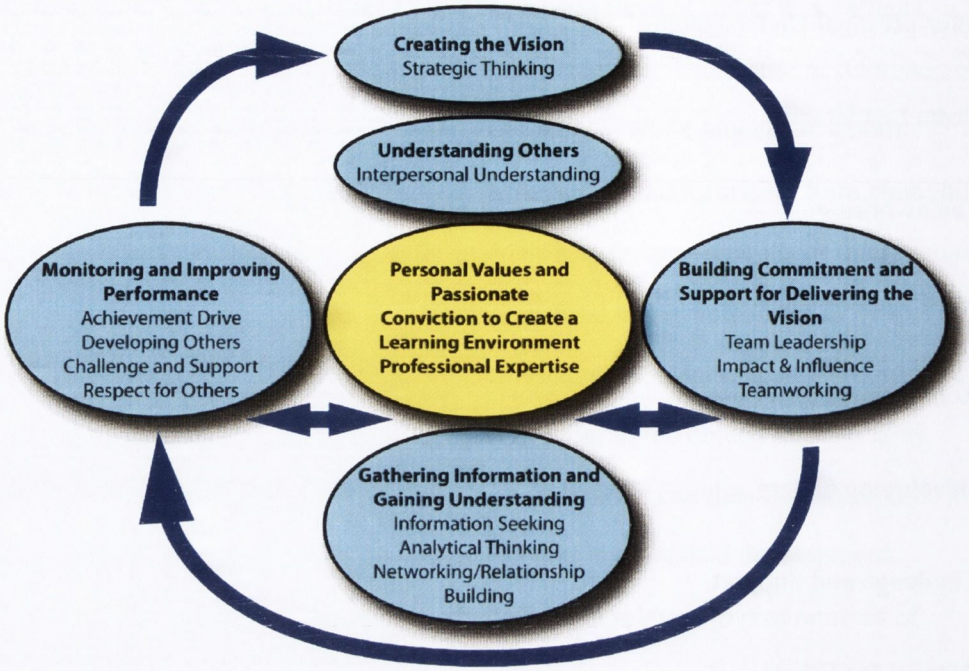

Figure 1: Role Clarity and Personal Competencies for Principals (Hay Group, 2003)

The model focuses on leadership behaviour and identifies areas of accountability, indicators of success, and requisite competencies. The report emphasises the comprehensive legislative and policy framework that shapes the role and functions of the school principal. The model is an attempt to redress a recurring concern for principals in Ireland, namely role specification:

> There is a strong perception throughout the ranks of Principals generally that the role has become extremely difficult if not impossible to deliver on effectively. This perception appears to derive from a lack of clarity around the role and a lack of time and resources. However, it may also derive from a shortage of the leadership and people management skills which we believe to be critical to the role. This may result from inadequacies in the selection processes for appointment to Principal posts in the first instance as well as to a lack of leadership and management development programmes for serving Principals.
>
> (Drea & O'Brien, 2003: 5)

The model, through the identification of core leadership competencies, supports the report's recommendations on the need for programmes of initial and ongoing professional development (Drea & O'Brien, 2003: 36-37).

The Kiwi Leadership for Principals (KLP) Model of Educational Leadership

The New Zealand Ministry of Education commissioned a position paper on educational leadership to guide the development of programmes of professional learning. This paper – *Kiwi Leadership for Principals: Principals as Educational Leaders* (New Zealand Ministry of Education, 2008) – emphasises the diversity and complexity evident within individual schools. A model of educational leadership is proposed which reflects the key challenges identified (Figure 2 below).

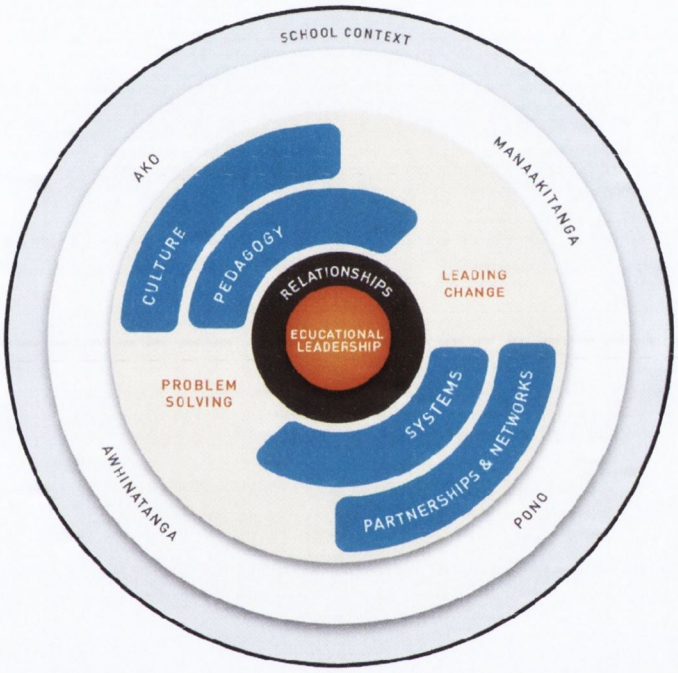

Figure 2: The KLP model of educational leadership (Ministry of Education, New Zealand, 2008)

As with other models, key areas of practice are identified. These include:

- Culture: reflecting the rituals, traditions, relationships, and organisational characteristics that are valued in a school;
- Pedagogy: knowledge about teaching and learning;
- Systems: knowledge about effective management practice, monitoring progress, delegation of responsibilities, and planning for unforeseen circumstances;
- Partnerships and networks: creating links both inside and outside the school to support learning.

The model is particularly interesting in its emphasis on catering for cultural diversity and history. Ensuring educational success for Māoiri is prioritised and considered central to a system of equitable education (New Zealand Ministry of Education, 2008: 10). This is emphasised in the model of leadership, which is bounded by school context. The key areas of leadership practices are situated within a framework of Manaakitanga (leading with moral purpose), Pono (having self-belief), Ako (being a learner), and Awhinatang (guiding and supporting).

The KLP leadership model is a guiding framework for the development of professional development initiatives. For example, the primary online environment for school leadership development, *Leadspace*[4], is at present being restructured in keeping with the key principles contained in the model[5].

UK Department of Education and Skills (DfES) Leadership Standards Model

Although not explicitly identified as a leadership model, the UK *Department for Education and Skills* (DfES) takes an approach that emphasises standards expected of school principles (headteachers):

> The core purpose of the headteacher is to provide professional leadership and management for a school that will promote a secure foundation from which to achieve high standards in all areas of a school's work. To gain this success a headteacher must establish quality education be effectively managing the teaching and learning and using personalised learning to realise the potential of all pupils. Headteachers must establish a culture that promotes excellence, equality and high expectations of all students.
>
> (Department for Education and Skills, 2004: 3).

Leadership standards are outlined with reference to six areas:

- Shaping the Future
- Leading Learning and Teaching
- Developing Self and Working with Others

---

[4] See: http://www.leadspace.govt.nz/
[5] Personal communication from Leadspace developer, dated 29/06/2008.

- Managing the Organisation
- Securing Accountability
- Strengthening Community

These areas – which may be considered to be constituent elements of a leadership framework – are associated with exemplars of leadership action. These actions are categorised with respect to leader knowledge, leader commitment, and leader capacity. Within each area of leader activity, indicators of leadership knowledge ("Knows about …), personal commitment ("Is committed to …), and leadership competencies ("Is able to …"), are outlined.

While a leadership standards model has the benefit of clarity, it may inadvertently limit exploration of the role of school leaders. For example, the identification of reified leadership standards may limit the pool from which potential leaders are selected. In effect, the adoption of a standards model may mitigate against the development of school leaders who are 'independent and critical thinkers' (Cowie & Crawford, 2007: 139-140).

The Leadership Development for Schools (LDS) Leadership Framework

The *Leadership Development for Schools* (LDS) programme was established in Ireland in 2002. The initiative commenced with the secondment of a small number of school principals, charged with preparing the groundwork for a formal programme of school leadership development. Also in 2002, the LDS team published *School Leadership: A Profile* (Leadership Development for Schools, 2002). This profile was intended to be used:

- As a reference point for the continued development needs of the profession;
- As a guide for practitioners in advancing their skills, competencies and values;
- As a guideline for other professional bodies working with principals, deputy principals and other school leaders;
- In the recruitment and appointment of school leaders;
- As a focus for those contemplating and preparing for leadership roles;

- To indicate the nature, scope and complexity of school leadership to those outside education;

- To forge partnerships and links with other professional bodies in the advancement of training goals.

A school leadership profile was proposed in the document. This profile encompassed a number of leadership elements: ethical leadership, personal leadership, transformational leadership, instructional leadership, and organisational leadership. A modified version of the model was included in the organisation's submission to the OECD activity *Improving School Leadership*[6]. This profile is represented in Figure 3 below.

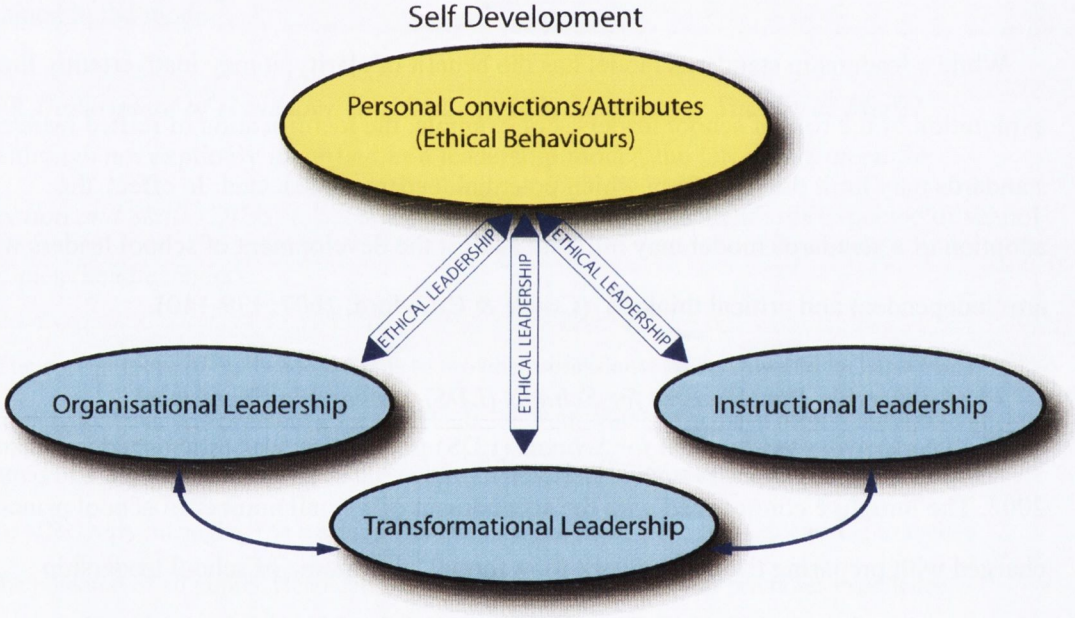

Figure 3: LDS School Leadership Profile (LDS 2002, 2007)

The profile emphasises the centrality of ethical leadership. Established theories of leadership such as instructional leadership, organisational and transformational leadership are embedded in the profile. The model represents a move towards identifying some of the prevailing approaches to school leadership and incorporating them into a framework suited to the Irish context. Each element of the profile is explored and a range of leadership competencies and actions are identified.

---

[6] For an overview of the OECD activity of school leadership, see: http://www.oecd.org/document/62/0,3343,en_2649_39263231_37125310_1_1_1_1,00.html

Although not included in formal LDS publications, a variation of the leadership framework has been used as a guide to the development of continuing professional learning programmes. This alternative framework is one that is more frequently introduced to participants on LDS programmes. The framework (see Figure 4 below), in contrast to the initial LDS leadership profile, relies less on references to established theories of leadership. Rather, the model emphasises a combination of desirable personal traits in a school leaders. The model pivots on a core of *moral purpose*. The influences for the restructuring of a model around the moral purposes of schooling can be traced to some of the later works of Fullan (2003, 2005a, 2005b) and, to a lesser extent, some of the principles advocated by Covey (1989).

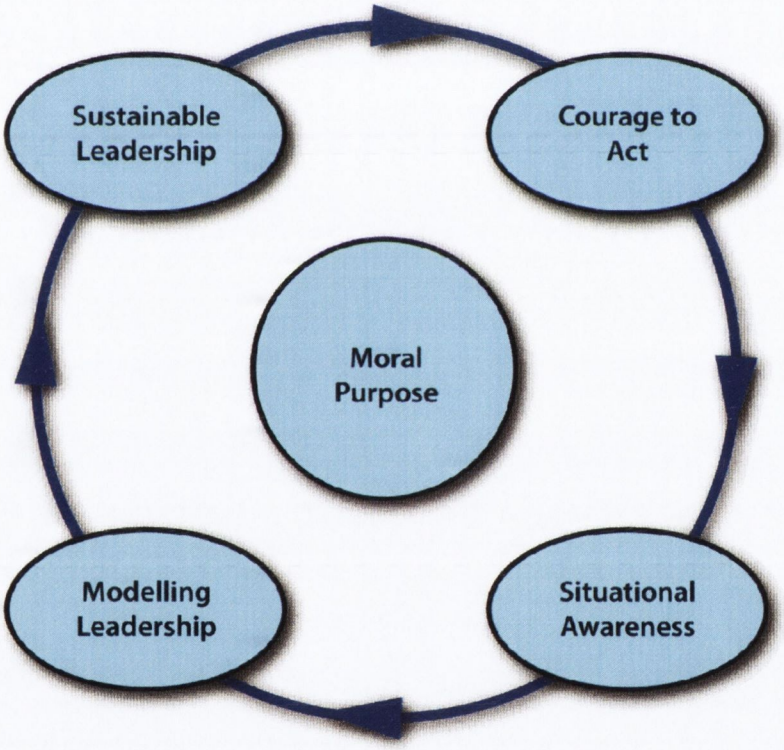

Figure 4: LDS Leadership Framework (c.2006)

The framework highlights the importance of sustainable leadership, having the courage to act, situational awareness and the practice of modelling leadership. Here, sustainable leadership refers principally to concerns over 'leadership burn-out' and personal energies. The concept is not, in general, explored to develop some of the richer themes associated with leadership sustainability. Foremost among these would be the importance of the

development of professional learning communities (Hargreaves & Fink, 2006) and the impetus to embrace system thinking as a leadership priority (Fullan, 2005a).

The remaining elements of the model are focused particularly on individual capacities. The identification of situational awareness as a key element recognises that school leaders operate, in general, within the context of a single school community. The need for principals and deputy principals to be aware of the histories, sensitivities, and cultures of their own schools is emphasised. This understanding of context is linked to the need for school leaders to have the courage to act, perhaps in the face of considerable resistance. This is not to advocate that leaders to embark on an agenda of irresponsible or unsustainable change. Rather, it is a challenge to provide leadership with reference to the moral purpose of schooling. Finally, the need to model leadership behaviour is a recurring theme in the programmes developed by LDS. Principals must 'walk the walk' and act in a way that is consistent with their vision for the school (Leadership Development for Schools, 2006).

Both of the LDS models are examples of frameworks that emerge from a focus on preparing professional development programmes for school leaders. The original model reflects influential theories of school leadership. Incorporation of these theories of leadership into formal professional development programmes would require close attention to the methodologies employed. For example, transformational leadership touches on all aspects of schooling: interpersonal and intrapersonal communication, individual and organisational learning, morality, and achievement. At its core, transformational leadership in focused on identifying objectives and developing vision. Professional learning activities designed to support leaders in achieving long-term goals would, at the very least, need to engage with practitioners over an extended period of time. In the latter model, the emphasis on moral purpose as a guiding principle gives rise to a pragmatic difficulty for programme designers. While the individuality of schools is celebrated, explorations of different leadership approaches may generate conflicting moral perspectives.

To identify a general distinction between the two LDS leadership models addressed here would concentrate on issues of purpose and audience. The establishment of LDS represented a very significant milestone in the provision of formal leadership development programmes in Ireland. The initial leadership profile emerged from a desktop research exercise, coupled

with reviews of existing models of leadership development, and supplemented with insights drawn from the experiences of the authors. It is appropriate that the profile would reflect prevailing theories on school leadership found in the literature. The development of the LDS leadership profile, together with the articulation of a framework for leadership development, was significant in introducing key leadership concepts to both practitioners and policy makers.

The latter model is influenced by the experiences of the LDS team in programme design and delivery. The influence of working relationships with educationalists such as Michael Fullan and John West-Burnham[7] can also be discerned. However, the latter leadership framework is characterised – both in design and in articulation – by an emphasis on personal leadership qualities and competencies.

In summary, it is possible to identify a general distinction between the theories of school leadership and the school leadership models discussed. Theories of leadership embody principles that make them suitable frameworks within which to explore school leadership across a wide spectrum of social and cultural contexts. The leadership models examined here, however, suggest a greater consideration for local circumstances. In general, these models reflect the main strands of leadership theory. However, the manner in which different approaches implicit in the models are interpreted is influenced by ideological and cultural pressures. This is not to suggest that theories of school leadership are free from cultural biases. What is suggested is that leadership theories – in particular, theories incorporated into models that inform professional development – are interpreted through the lens of prevailing values and established practices.

2.4 Policy and Legislative Influences

Educational values and practices are also reflected in policy documents and legislation. While a piece of legislation has a specific understanding as a law enacted by a recognised authority, policy documents may be prepared by a number of agencies. In Ireland, overall responsibility for policy development and educational provision lies with the *Department of*

---

[7] Professor West-Burnham is a visiting lecturer and consultant for the LDS *Forbairt* programme

Education & Science (DES). Other bodies under the aegis of the DES may contribute to the development of educational policy and provision. For example, with respect to curriculum development at primary and post-primary (secondary) levels, the key agency is the *National Council for Curriculum and Assessment* (NCCA). From time to time, the DES establishes working groups or advisory committees to further policy development in a specific area. The early work of the *Leadership Development for Schools* (LDS) initiative is an example of this approach.

However, it is noted that deficits in the area of policy formulation and implementation are cited consistently with respect to the Department of Education & Science. A key example is that of observations arising from the 'Cromien Report', *Department of Education and Science: Review of Department's Operations, Systems and Staffing Needs* (Cromien, 2000). With respect to the role of the Department of Education & Science in policy formulation, five key concerns are identified within the report:

- The pressures within the Department to respond to day-to-day crises and the need to deal with urgent matters erodes the time available for the development of medium- and long-term plans. Sections within the Department are preoccupied with keeping up-to-date with existing workloads and do not have the capacity to assess the effectiveness or appropriateness of existing strategies.

- The absence of clear organisational structures within the DES gives rise to uncertainty in relation to where within the Department policy is to be developed. This also leads to uncertainty about where responsibility for the development and monitoring of policy lies.

- New initiatives tend to arise in a haphazard manner. These schemes often emerge 'through the energy and enthusiasm of particular individuals rather that as part of a set of medium-term policy objectives' (p. 3).

- As a result of the lack of coherent policy development structures, policies often emerge from interactions with various interest groups or arise in the context of national agreements. Some policies may result from judicial review and related court cases. The

net effect is that the Department exhibits a level of 'passivity' with respect to the design of new schemes (p. 3).

- A characteristic of policy formulation within the DES is that is tends to lack coherency and consistency. The announcement of a particular initiative may give rise to complaints from sections with the Department who have been inadequately consulted on the ramifications of the scheme. Indeed, political announcements of new initiatives have, at times, been the first time that relevant sections of the Department have become aware of a policy.

Added to these specific challenges, there is a tendency for policies to fail to move beyond being appeals for educational action or the identification of self-evident educational issues (O'Sullivan, 1989). Overall, policy development has been characterised as being ad hoc in nature, susceptible to external influence, and conspicuously short-term in scope (Harris, 1989). Although consideration of the Cromien Report has prompted a review of the internal organisational structures of the DES, these criticisms, to a significant degree, remain extant.

Policy Documents and School Leadership

While there are few policy documents which focus exclusively on school leadership, it is suggested here that the leadership roles shifts in the face of changes in the broader framework of educational policy. For example, Sugrue (2003) identifies three distinct phases in the evolution of the primary school principal's role in Ireland:

Pre-1971: Predominantly Administrative

The role of the principal was to administer the system is an efficient manner and within the regulations prescribed by the State and the managers of the schools. The vast majority of school managers were members of religious orders. The curriculum at this time concentred on the basics of reading, writing and mathematics ('the 3Rs'). There was a very clear hierarchy of relationships within the system: manager, Department of Education inspector, principal, and teacher.

1971-1989: Management

The introduction of a revised primary school curriculum in 1971, was based on a child-centred ideology, allowed a greater degree of freedom for both teacher and student (Coolahan, 1981: 179). The reforms of this time also brought new responsibilities for school principals. This period saw, for example, the introduction of Boards of Management for schools. For principals, this entailed attending meetings as well as handling reports and correspondence for the Board. Principals were increasingly devoting more time to 'the duties of the manager who, in many instances, was only too willing to pass his responsibilities to the principal' (Sugrue, 2003: 13). Another significant influence on the role of the principal was the increased democratisation of decision-making in schools. Staff-meetings became the norm and principals found themselves 'exposed to colleagues in a manner previously unknown' (p. 12).

1990's: A Focus on Leadership

The influential 1991 review of education policy in Ireland by the *Organisation for Economic Co-operation and Development* (OECD) recognised that there were significant changes occurring in the management and governance of schools. The report also concluded that current efforts to prepare principals and senior staff for leadership roles were inadequate. Furthermore, the examiners proposed that pre-training and continuing training were necessary for 'those who exercised special responsibilities in schools' (Organisation for Economic Co-operation and Development, 1991: 132). The period saw the role of principal continue to become less predictable and more demanding: new management structures increased expectations vis-à-vis school leadership, increased funding required new levels of accountability, and increased parent expectations all impacted upon the day-to-day work of principals.

The 1990's heralded a period of significant policy and legislative development with respect to education. This shift in policy development and implementation has impacted significantly on school leadership in Ireland. The OECD review of educational policies in Ireland (1991), referred to above, was a significant prompt to re-evaluate policy development in Ireland. The 1992 Green Paper, *Education for a Changing World*, acknowledges that 'Irish society has been undergoing a period of profound cultural, social, occupational,

demographic and attitudinal change (Government of Ireland, 1992: 31). The importance of school leadership is stressed in the document:

> The principal, as the chief executive of the school, occupies a pivotal role. Under the direction of the Board of Management, the principal has the responsibility for determining the school's educational aims, formulating the strategies to achieve them, encouraging the commitment of all the staff to support those goals, and developing the school's curriculum and assessment policies.
>
> The principal is the manager of the teaching staff, affirming and evaluating their work, identifying their development needs, and fostering good relationships between the staff and parents and, indeed, the community generally. Teachers would be accountable to the principal for their discharge of their duties; in turn, the principal would be accountable to the Board of Management for the work of everyone in the school.
>
> (Government of Ireland, 1992: 148)

This view of the role of the principal was not embraced by all stakeholders. In particular, the notion of the school principal as 'chief executive' of the school was challenged. Against a claim that the Green Paper was attempting to apply commercial models of management to school, teacher representative organisations stressed that 'management structures based on outdated industrial norms are not the most appropriate for schools, where a degree of professional autonomy in the norm' (Ruane, 1992: 23). The debate was also in evidence in the political sphere:

> On reading this document one would think it was produced by somebody from a commercial rather than an educational background. It will be very difficult to identify the post of chief executive with that of principal of a primary school in the wilds of the west [of Ireland]. Such an individual has the object of keeping a school going, not running a business. The idea of trying to create a business culture in the running of the education system is wrong. We need structures where teachers will feel happy and will be enabled to impart knowledge to their pupils in a learning environment. That is more important than emphasising the enterprise culture at primary level.
>
> (de Valera, 1992)

One contribution to the continuing debate on the direction of education policy was the establishment of the *National Education Convention* in 1993. The report on the convention

outlined that there was little support for the role of principal as 'chief executive' of the school. Rather, the emphasis was on maintaining the principal's position of *primus inter pares* within the school. Furthermore, the role of the principal as instructional leader was considered to distinguish the principal from that of a manager or a chief executive in a business environment (Coolahan, 1994: 42-43).

The concept of principal as chief executive did not appear in the subsequent White Paper on Education, *Charting Our Education Future* (Government of Ireland, 1995). However, the centrality of the principal to school effectiveness continued to be emphasised:

> Principals decisively influence the effectiveness of the school. The principal is central to shaping the aims of the school and to creating supporting structures which support the achievement of those aims. This underlies the crucial importance of the principal's instructional leadership role. She or he facilitates the creation of a high-quality learning environment and mobilises staff, individually and collectively, to establish educational objectives, to support their continuous achievement and to evaluate and learn continuously from experience.
>
> (Government of Ireland, 1995: 152).

Clearly, the focus here is on the role of the principal in addressing standards of teaching and learning. The emphasis on instructional leadership echoes similar references in the *Report of the National Education Convention* (Coolahan, 1994, p. 43), cited above. *Charting Our Education Future* also identified the need to address the professional development requirement of school leaders. This was regarded as essential to promoting school effectiveness and a number of proposals were put forward (Government of Ireland, 1995: 152):

- Principals will have, on their appointment, the opportunity to participate in induction programmes.
- These induction programmes will include a mentoring scheme whereby newly appointed principals will be paired with experienced principals.
- Throughout their careers, principals will have access to training courses on school leadership and management.

- 'Networks of principals' will be established to provide mutual support, to promote the dissemination of 'best practice', and to help to identify emerging training needs.

The proposals reflect approaches to school leadership development identified in the literature. They also reflect some of the methodologies used to support leadership development in other jurisdictions. While the induction phase of the principalship is highlighted, it is noteworthy that participation in these programmes was not mandatory. The presumption is that newly appointed principals will assess their own support needs and determine if the available supports are likely to be of benefit to them. This remains a characteristic of school leadership development programmes in Ireland.

The *Education Act 1998* (Government of Ireland) is a significant piece of legislation in the Irish context. While not attempting to address the nature of school leadership, the Act clearly establishes leadership as an educational imperative. Furthermore, providing leadership in a school is identified a core responsibility of the principal:

> … the Principal shall
>
> (a) be responsible for the day-to-day management of the school, including guidance and direction of the teachers and other staff of the school, and be accountable to the board for that management,
>
> (b) provide leadership to the teachers and other staff and the students of the school.
>
> (Government of Ireland, 1998: Section 23(2))

Indirectly, these responsibilities fall to the school's deputy principal in the absence on the principal. In secondary schools in Ireland, the deputy principal is required to act as the principal in the principal's absence. This is stated explicitly in the case of deputy principals in post-primary schools (Department of Education & Science, 1998).

The same *Department of Education & Science Circular Letter (04/98)* also identifies the principal, deputy principal, and holders of posts of responsibility as the 'in-school management team for the school'. At both primary and post-primary level, appointment to the position of principal or deputy principal is restricted to qualified teachers in schools recognised by the DES. With some exceptions relating to the size of a school, appointment to the position is limited to teachers who have competed five years teaching service

(Department of Education & Science, 1998, 2002, 2003). For example, at post-primary level, and again with reference to *Circular Letter 04/98*, it is stated that:

> Candidates for appointment to the post of Principal or Deputy Principal will be required to have a minimum of five years wholetime teaching service.

These regulatory requirements limit appointments to the position of principal or deputy principal to members of the teaching profession. These provisions are, however, consistent with the concept of the principal as the school's 'principal teacher' (príomhoide). As noted earlier, the holding of a formal qualification in school leadership is not a prerequisite for appointment to these positions. However, the management authorities of school – who retain responsibility for the appointment of principal and deputy principals in accordance with DES regulations – invariably take account of qualifications, experience, past performance, and general suitability when assessing candidates.

The requirements conspire to ensure that school leaders are invariably drawn from the body of practicing teachers. This tendency, together with an absence of preparatory programmes, was highlighted in the *Report on the National Education Convention*:

> The transition from the classroom to the principal's office can be difficult for a newly-appointed principal, and the concept of management which views the principal as first among equals may not be helpful in making this transition. Moreover, this view of the principal's role would seem to be at variance with the concept of management envisaged for the principal as instructional leader in the school. Nevertheless, the notion of the principal as first among equals would appear to be firmly grounded in the culture of schools and underpins the expectation which the principals may have of themselves, as well as that which their staff have of the role.
>
> (Coolahan, 1994: 44-45).

The absence of a requirement to hold a license or credential to be appointed to the position of school principal contributes to the tendency to articulate the role in general terms. Compared to, for example, the United Kingdom (Department for Education and Skills, 2004) and the United States of America (Interstate School Leaders' Licensure Consortium, 2003), the formalisation of leadership standards in Ireland is not well developed. While an over-emphasis on leadership standards can be problematic (Cowie & Crawford, 2007), they do

contribute to the development of role clarity for school leaders. At present, the responsibilities of school principals in particular are distilled from the provisions within a wide range of legislative acts[8], including:

- Safety, Health and Welfare at Work Act (1989)
- Children Act (2001)
- Employment Act (Protection of Young Persons) (1996)
- Employment Equality Acts (1998, 2004)
- Education Act (1998)
- Education Welfare Act (2000)
- Equal Status Act (2000)
- Teaching Council Act (2001)
- Unfair Dismissals Act (2002)
- Education for Persons with Special Educational Needs Act (2004)
- Child Care Act (1991)

Together with other regulatory documents emanating from national and regional bodies, these acts influence the organisation of schools and their day-to-day practices. Consequently, they also influence patterns of leadership action. These influences have a significant impact on how effective school leadership is conceptualised, identified, and promoted.

Evaluation of Educational Provision

As well as a regulatory framework, recent initiatives such as the *School Development Planning Initiative* (SDPI) and *Whole School Evaluation* (WSE) influence leadership practice. In the 1980's, an increased emphasis on school planning and development was

---

[8] A full listing of Acts in the Irish Statute Book can be viewed at http://www.irishstatutebook.ie/acts.html

evident. A related development at primary school level was an increased rate of school inspections by the Department of Education. Resulting in part from an insistence by the main teacher trade union at primary level, the INTO, the performance of individual teachers could not be identified in the resulting inspection reports. This contributed to a shift in emphasis from individual responsibility for teaching and learning to 'a collective responsibility on the part of school staffs working as teams' (Sugrue, 1999: 61). This period also saw the emergence of the formal 'school plan'. A school plan is

> a written resource document which facilitates co-ordinated development within the entire school community. Such a document can only be arrived at through a process of interactive and collaborative dialogue within the broader education community. School planning therefore is essentially a process in which school policy and plans evolve from the ongoing and developing needs of the school and the community it serves. It is a dynamic process which provides for constant review, design, implementation and evaluation.
>
> (Department of Education & Science, 1999a)

Requirements for the development of a school plan are found in the Green Paper on Education, *Education for a Changing World* (1992) and in the White Paper on Education, *Charting Our Education Future* (1995). The *Education Act 1998* (Section 21.1) stipulates that each school Board of Management will prepare a school plan.

To support the work of schools adjusting to this increased emphasis on collective planning, the *School Developing Planning Initiative* (SDPI) was established in 1999. Although the tenor of key SDPI publications suggest that the process of school development planning is largely one of self-evaluation, a contrasting view is evident in the *Programme for Prosperity and Fairness* (Government of Ireland, 2000b). The document confirms that 'every school will partake in a school development planning process involving a school plan' and that this process will constitute 'the basic element of a performance management system' (p. 27).

A further development that confirmed an increasing requirement for formal external evaluation of schools was the implementation of WSE. Emerging from a pilot project established in 1998, the WSE initiative was introduced as

> the latest stage in the gradual evolution of a model of school inspection designed to meet school and system needs in achieving quality education at primary and second levels.
>
> (Martin, 1998)

A key feature of the WSE process is the publication of inspection reports. These reports include a section on 'In-school Management'. An example of an inspection observation emphasises the expectations of principal, deputy principal, and teaching staff in the school development planning process:

> While planning is viewed by the principal as being solely his prerogative, on the initiative of the deputy principal the staff of the school has carried out commendable work in the planning area. Teachers, including the deputy principal, have worked together on whole-school policies in a large number of areas. They are highly commended on the commitment that they have brought to this work. The draft policies that have been developed should be reviewed in the light of their operation to date and when finalised should be formally approved by school management[9].

It is likely that the expansion of WSE inspections, together with the wider availability of inspection reports will have an impact on leadership practice. The inspection reports indicate examples of leadership action deemed commendable by the inspectors. While it is difficult to quantify the influence of the process, it is likely that school leaders will at least reflect on leadership action in light of the expectations implicit in these reports. In addition, while the practice of not identifying individual practitioners in maintained, this is largely rendered void in the case of school management. Typically, there is a single principal and deputy principal appointed to a school. Hence, frequent references to these positions within an inspection report afford little anonymity. Overall, the emergence of WSE represents a transition from the model of self-evaluation embedded in SDPI to one of external review and accountability.

2.5 Discussion

The multiplicity of perspectives on leadership reflects the challenges in identifying the foundations of effective leadership. The brief overview of theories of leadership presented

---

[9] The full inspection report can be viewed at:
http://www.education.ie/insreports/report2_65241N.htm#_Toc201454992

here is sufficient to confirm that personal traits, developed competencies, and operational context all influence leadership effectiveness. The available research suggests that certain leadership characteristics such as self-confidence, persistence, capacity to tolerate failure and frustration, and personal initiative are correlated with effective leadership. Competencies such as planning and decision-making, professional knowledge, teamworking, and interpersonal communication skills are also identified. The research does not propose a model whereby innate traits may be differentiated clearly from developable competencies. It is the combination of traits and skills, developed over time, that give rise to leader experience and expertise.

While individual capacities are significant, it is emphasised that each leader operates in a complex social environment: leadership action is invariably located within a social setting. The unique histories, cultures and dynamics of these contexts have a bearing on the effectiveness of leadership action. The matching of a leadership skill-set to a specific context is an influential theme in research in leadership. A core component of leadership action, then, is the identification of approaches suited to the situation at hand. Implicit is this approach is that certain leadership strategies are inappropriate in certain contexts. Consequently, a pivotal leadership capacity is access to a repertoire of professional knowledge that supports the identification of appropriate leadership strategies.

Although schools may be considered to represent a certain class of social setting, each institution has its own unique and challenging characteristics. Schools have commonalities such as a mandate to ensure student learning. A common remit among school organisations is not, however, tantamount to suggesting that all schools employ the same practices, or that these practices are underpinned by the same values (see, for example: Drudy & Lynch, 1993; Hammersley & Woods, 1993; Huberman, 1989; Lynch, 1989; Smyth, 1999). The culture of a school emerges from the interplay of internal and external factors. Two key factors – identified for their impact of leadership action – were highlighted. First, a regulatory and legislative framework identifies boundaries of acceptable practice in schools as well as shaping the conditions within which teaching and learning occur. This framework is in turn an expression of societal expectations of schools. The combination of expectations and regulatory requirements is a powerful influence on school leader behaviour. Second, the implementation of a formalised system of external evaluation of schooling impacts upon

leadership. One result of such as system is a shift from individual to collective accountability. Implicit in the emphasis on collaborative planning and policy development is the capacity of the school principal to effectively organise practitioners into development teams. Here, development teams are groups of practitioners, mainly teachers, working collectively to improve school practice. Although the concept is not clearly addressed within policy documents, the reshaping of schools as professional learning communities is a consistent theme in the related spheres of school development planning and school evaluation.

It is in the area of policy development that the regulatory context and the school evaluation context most closely mesh. For example, schools are required by legislation to develop key documents detailing school policy and practice. In Ireland, two examples are the school's code of behaviour (Government of Ireland, 2000a) and admissions policy (Government of Ireland, 1998). From a school evaluation perspective, the engagement of teachers and other educational partners in the policy development process is consistently identified as desirable practice. Consequently, while regulatory influences require the preparations of specific school policies and practices, school evaluation influences require that these documents be prepared in a collaborative manner.

A further consideration is the similarity of language used to describe theories of school leadership with that used in policy documentation. While empirical research on school leadership is limited, the language used in policy documents increasingly reflects that emerging from the research literature. Consequently, we see references to instructional leadership (Department of Education & Science, 1999b), delegated leadership (Government of Ireland, 1995), and transformational leadership (Leadership Development for Schools, 2003b). This is not to imply that the concepts and methods upon which a leadership theory is grounded have been absorbed into practice. It does suggest, however, that, as perspectives on school leadership emerging from the literature – and in particular, from the advocacy literature – gain currency, these perspectives come to be reflected in the language of policy.

Models of school leadership incorporate descriptions of real-world elements and support analysis of relationships between these elements. Approaches to school leadership invariably overlap, containing complementary as well as contradictory perspectives. Furthermore, these

perspectives are, broadly, linked to changing societal and systemic expectations of school leaders. Where models of school leadership are proposed, they invariably reflect these and other priorities in educational practice. Typically, models embrace theories of educational leadership which are selected and interpreted with reference to prevailing norms and values. These models simultaneously reinforce prevailing concepts of effective leadership and chart new directions for leadership development. Models of school leadership are important points of reference for programmes of professional development. That leadership skills such as critical thinking, reflective practice, teamworking, and problem solving can be enhanced has implications for school leadership development. Foremost among these implications is the need to identify appropriate strategies to support continuing professional learning for school leaders.

3 Theoretical Context II: Approaches to School Leadership Development

To continue the development of the theoretical context, attention is now turned to approaches to school leadership development. This chapter outlines the characteristics of common continuing professional learning initiatives. In examining these approaches, reference is made to activities such as reflective practice, mentoring, and portfolio development. Consideration is given to the tendency to deemphasise the importance of pedagogy and learning theory in the implementation of professional learning initiatives. Consequently, a number of complementary elements to established continuing professional learning approaches are introduced. These elements – professional knowledge, leadership schemata, and variation theory of learning – are intended to support development activities such as mentoring, reflective practice, and portfolio development. They are considered necessary additions to further the development of a model of CMC-supported professional learning.

A recurring theme is that professional learning is in essence a social activity, reliant upon interaction and dialogue with other practitioners. This again emphasises the importance of context for professional learning. One of the most significant contexts for continuing professional learning identified is that of the community of practice. While there are many different forms of learning community, communities of practice are identified as important elements of a model of continuing professional learning for school leadership.

School leadership development requires consideration of two related issues. The first relates to systemic requirements. This is the need to ensure that there is a supply of potential candidates to fulfil school leadership roles. This also suggests the need to develop a school leadership profile so that the potential leaders can be identified with respect to the skills and competencies necessary to achieve systemic objectives. The second dimension relates to providing opportunities for individuals to acquire the skills and knowledge necessary to

accomplish leadership tasks (Cowie & Crawford, 2007). The objectives within these related dimensions are not static and unchanging. They will be influenced by changes in emphasis that emerge, over time, in light of changes evident at cultural, political, and systemic levels. To recall the case of primary school principals in Ireland (Sugrue, 2003; Sugrue & Furlong, 2002), the emphasis for the role has shifted from being predominantly administrative in nature towards a growing emphasis on leadership. This shift is reflected internationally, with professional development initiatives moving from the 'science of administration' to the 'psychology of leadership.' This shift emphasises the development of vision, mission, and interpersonal perspectives with a view to improving student learning (Grogan & Andrews, 2002).

3.1 School Leadership Development

As detailed in Chapter 2.4, the 1990's ushered in a concerted effort to restructure the regulatory and legislative framework underpinning education in Ireland. A changing social and economic context prompted a reassessment of educational provision. The 1991 OECD review of policy in Ireland (Organisation for Economic Co-operation and Development, 1991) is generally considered to be a key stimulus for a review of educational provision. A subsequent Green Paper on education (a government document intended to support debate and discussion) outlined the challenges of school leadership. The report also included a proposal for the establishment of formal training programmes for school managers:

> A priority for in-career training will be management training for staff with managerial responsibilities. A special training programme, adapting the best practice in management generally to the special needs of education, will be established in 1992. Attendance at this course will be obligatory for all new principals and its availability will be extended progressively to existing principals.
>
> (Government of Ireland, 1992: 149).

To date, no obligatory training programmes for school leaders have been established. Informed by the National Education Convention, the White Paper on Education, *Charting Our Education Future* (Government of Ireland, 1995), contained a number of proposals on the induction and training of school principals. A specific policy objective identified was that, over the following five years, each school principal will have participated in a career-

development programme. It was also proposed to establish formal 'networks of principals' which were to 'provide mutual support, to promote the transfer of good practice among schools and to identify continuing training needs' (Government of Ireland, 1995: 160).

This period of consultation and policy development led to the *Education Act 1998* (Government of Ireland, 1998). Although an examination of the nature of school leadership does not feature in the Act, or in other pieces of educational legislation, the need for professional development for school leadership continued to be emphasised. For example, the *Report of the Working Group on the Primary School Principal* recommended that training programmes be developed not only for principals and deputy principals, but also for those aspiring to the role of school principal (Department of Education & Science, 1999b).

The clearest delineation between leadership development initiatives can be made between programmes for emergent school leaders and programmes that focus on those appointed to formal leadership positions. From both a regulatory and historical perspective, the formal leadership positions within a school are that of principal (headmaster) and deputy principal (deputy headmaster or assistant principal). Although the school principal is identified as having a statutory requirement to provide leadership within his or her school, that leadership roles may be fulfilled through the school organisation is a recurring theme in the literature (Bennett et al., 2003; Blase & Anderson, 1995). However, in the Irish context, most attention is focused on the provision of continuing professional learning opportunities for the formal school leadership positions of principal and deputy principal.

Continuing Professional Learning Initiatives

The challenges surrounding leadership development are compounded by difficulties in assessing the appropriateness of professional development supports. A review carried out on behalf of the *National College for School Leadership* (NCSL) identifies a number of approaches that are used to support school leadership development (Bush & Glover, 2003):

Work-based Learning

Here, learning is 'on the job' and emergent leaders learn by observing others fulfil leadership roles. A more structured approach to work-based learning may utilise an

'apprenticeship' model, with the establishment of relationships between mentor leaders and apprentice leaders.

Needs Analysis and Diagnostics

This approach emphasises the need to identify key information so that professional learning initiatives are meaningful and appropriate. This approach has the potential to promote self awareness and reflective practice.

Action Learning

Action learning entails a continuous cycle of learning and reflection, typically in collaboration with colleagues and peers. The approach has the potential to influence not only individual learning, but can contribute to organisational development as well.

Mentoring

Mentoring is identified as one of the most effective means of support practicing and emerging school leaders. This approach typically refers to a process where a less experienced leader has access to support from a more experienced practitioner.

Coaching

Although coaching has similarities to mentoring—most notably in the association of an inexperienced leader with a more experienced practitioner—the emphasis is on skills development.

Portfolios

The development of a structured leadership portfolio can provide a useful support to leadership development. The portfolio may contain examples of reflective writing, evidence of accomplishments, and samples of completed work.

Narrative Methods

Storytelling techniques may be used as a basis for leadership development as they allow leaders to gain information in a familiar (oral) format. Narrative methods provide a stimulus to reflect and aid the development of a capacity to listen.

E-Learning for Leadership

The effectiveness of e-learning (online learning) for school leadership development is influenced by a number of key practices, including:

- Providing pre-programme diagnoses to ascertain:
    - Personal goals and aspirations;
    - Learning style preferences;
    - Competences with information and communication technologies;
    - Time management capabilities; and
    - Ease of access to computers.
- Providing opportunities for the professional learners to get to know one another prior to the commencement of programmes in order to optimise peer-to-peer and reciprocal learner-to-facilitator communications.
- Encouraging the professional learners to develop a group dynamic in order to promote collaborative working within the e-learning environment.
- Delivering leadership development by both online and offline offerings.
- Ensuring the availability of fast and reliable internet connections.
- Building in systems that guide/pressure learners to complete the programme.
- Assessing the e-learning activities so that their quality becomes an essential part of the successful completion of the programme.
- Ensuring that the programme has high status in the relevant community.

Based on a review of a number of development programmes for school principals in the United States of America, Peterson (2002) recommends a number of considerations in the development of professional development programmes for school principals:

- The programmes should be career-staged, with initiatives for aspiring, new, and experienced principals.

- The programmes should communicate quality with respect to the location, setting, programme materials and presenters.

- The focus of the programmes should be school leadership which supports high-quality teaching and learning for all students.

- Each programme should have a clear focus.

- Programmes should expose participants to intensive experiences over time, including multi-day, day-long, and part-day experiences.

- Development programmes for experienced school leaders should embrace a number of methodologies, including:

    - Study Groups;

    - Advanced coaching seminars;

    - Reading and discussion groups;

    - Presentations by current thinkers and expert practitioners;

    - Attendance at conferences;

    - Adopting the role of coach, facilitator, or trainer.

- Programmes should exploit the use of ICT, including internet-based learning, online discussion, telephone coaching, and streaming video.

- Programme curricula should be designed to take account of prior learning, and be carefully designed and sequenced.

- Programme topics should enhance core leadership skills and knowledge as well as address administrative procedures and contractual requirements.

- Linkage between different programmes should be explored with a view to mapping curriculum, readings, conceptual models and methodologies across preparatory and continuing professional development initiatives.

- Conceptual foundations should be identified and linked to national or regional standards and models.

The document summarises a wide range of approaches that may be used to support continuing professional learning. In Ireland, although the approach to school leadership development is fragmented, instances of the approaches identified above can be identified. The establishment of *Leadership Development for Schools* (LDS) in 2002 and the development of the *Misneach* programme represents the introduction of a formal, cross-sectoral programme for school principals. The establishment of LDS and the implementation of a virtual learning environment to support school leadership development are examined in more detail in Chapter Five. Briefly, the initiative supports a number of professional learning programmes. In general, these programmes are offered over a one- or two-year period. During this time, participants meet on four to five occasions as part of a programme cohort.

Prior to the establishment of LDS, programmes were usually organised by school management organisations such as the *Joint Management Body* (JMB)[10] (representing the Boards of Management of approximately 400 Secondary Schools in Ireland), and the regional *Vocational Education Committees* (VEC)[11]. Another management representative body, the *Association of Community and Comprehensive Schools* (ACCS)[12], also provides induction and in-career programmes for principals and deputy principals. Recent programmes have treated matters such as administrative and financial guidelines, the role and functions of Boards of Management, the Child Protection Guidelines, and dealing with bullying and harassment in the workplace. These organisations continue to provide professional learning opportunities for practitioners, sometimes in collaboration with LDS.

---

[10] See: http://www.jmb.ie
[11] See: http://www.ivea.ie
[12] See: http://www.accs.ie

Other bodies, for example teacher unions such as *The Association of Secondary Teachers Ireland* (ASTI)[13]; *The Teachers' Union of Ireland* (TUI)[14]; and the *Irish National Teachers' Organisation* (INTO)[15] provide courses for their members. Typically, provision of continuing professional learning programmes for principals and deputy principals is delegated to a sub-committee of the organisation. For example, at primary school level, the INTO convenes a forum for principals and deputy principals[16]. Under the aegis of TUI at post-primary level, a *Principals' and Deputy Principals' Association* is also active. Regional meetings of the association are held frequently and there is typically a CPD element at the meetings. Furthermore, seminars and workshops are a feature of the association's annual conferences. The third main teacher trade union, the ASTI, includes a *Principals and Deputy Principals Advisory Committee* to advise the union on matters relating to members holding these posts.

More recently, professional representation bodies at primary and post primary levels were established outside the trade union framework. At primary level, the *Irish Primary Principals' Network* (IPPN)[17] was established in 2000. The core structure of the IPPN is the *Principals' Support Groups*. While no data are available to determine the effectiveness of these groups, there are a number of notable characteristics in their organisation. These include:

- Centred around small groups of practitioners, usually in the order of eight to twelve practitioners;
- Emphasising a high degree of confidentiality and discretion;
- Incorporating a regular social dimension;
- Promoting the frequent sharing of resources, ideas and strategies;
- Conducting meetings without references to a formal agenda;

---

[13] See: http://www.asti.ie
[14] See: http://www.tui.ie
[15] See: http://www.into.ie
[16] The forum's newsletter can be accessed at : http://www.into.ie/ROI/publications/Forum/CurrentIssue/
[17] For an overview and history of the IPPN, see: http://www.ippn.ie/index.cfm/loc/2-4.htm

- Eschewing from the keeping of meeting minutes;
- Avoiding the use of invited or external speakers.

Within the post-primary sector, the establishment of the *National Association of Principals and Deputy Principals* (NAPD)[18] was intended to unify the disparate organisations representing principals and deputy principals in negotiations with the DES. Again, the NAPD has a regional structure and meetings typically incorporate discussion and training components. The association's annual conferences include workshops and discussion groups as well as formal addresses. Both the NAPD and the IPPN maintain websites providing access to resources such as newsletters and *Department of Education & Science* documentation. The websites include online discussion forums. The IPPN also provides a range of online CPD course for its members. Both the NAPD and IPPN online environments incorporate discussion forums for their members. However, while not subject to a statistical analysis, the use of these forums by school leaders appears to be limited[19].

During the late 1980s and 1990s, there was an increase in the availability of higher diploma and degree programmes from universities. For example, within the Master in Education (M. Ed.) programme at Trinity College, Dublin (TCD), participants may specialise in the area of educational leadership and management[20]. At the University of Ireland, Maynooth (NUIM), a Higher Diploma in Educational Management was established in 1989. The goal of the programme was to prepare teachers, either currently holding leadership positions in schools or aspiring to do so, with the knowledge and skills required for effective school management[21]. A Master of Education in School Leadership programme is also available at NUIM and is intended to 'meet the needs of teachers, aspiring principals, principals, and others exercising leadership positions'[22]. In addition, a *Postgraduate Diploma*

---

[18] See: http://www.napd.ie

[19] With respect to the IPPN, a personal communication from a system administrator suggests that it is a challenge to encourage practitioners to engage with the online discussion forums. This researcher is a member of the NAPD and therefore has access to the relevant discussion forums at www.napd.ie. Although no analysis was conducted, there appears to be limited interaction within the discussion forums.

[20] Details are available at: http://www.tcd.ie/Education/courses/masters.php

[21] For course details, see: http://www.nuim.ie/academic/education/Courses.html

[22] For course details, see: http://www.nuim.ie/academic/education/Courses.html

in Educational Administration is offered at University College, Cork (UCC)[23]. The programme encompasses modules on education policy studies, school planning, and contemporary issues in educational leadership. Universities that offer M. Ed. programmes will, from time, incorporate research themes that focus on school leadership[24].

3.2 Supporting Continuing Professional Learning

To further the development of a theoretical context for examining the use of virtual learning environments to support school leadership, a number of continuing professional learning approaches are identified as being of particular importance. These approaches – reflective practice, action science, mentoring, and portfolio development – are considered to be essential elements in a framework intended to support continuing professional development for school leadership. All of these elements may not feature in established continuing professional learning programmes for school leadership development. However, they are introduced here to aid the development of the proposed model of CMC-supported learning.

Reflective Practice

A recurring theme of professional development initiatives is that assisting practitioners to better understand the complexity of the contexts within which they operate is a cornerstone of leadership development. The concept of the school leader as a reflective practitioner encompasses critical analysis of educational practice. A practitioner operates in a continuous cycle of evaluation and re-evaluation with respect to their professional practice. One characteristic of reflective leaders, identified by Sergiovanni, is that they 'view with suspicion quick fixes, sure-fire remedies, and one-best-way prescriptions for teaching and learning, supervising, and evaluating' (Sergiovanni, 2001: 154). In essence, effective school leaders have a more complex view of schooling and can maintain their focus on educational objectives in uncertain situations. The development and sharing of an educational vision is a key leadership capacity. The shaping of a leader's educational vision and enrolling others in the pursuit of this vision requires 'informed thought' (Stoll & Fink, 1996: 112). The

---

[23] For details, see: http://www.ucc.ie/en/education/EducationStudies/hdipEdAdmin/

[24] See, for example, National University of Ireland, Galway (http://www.nuig.ie/education) and University College, Dublin (http://www.ucd.ie/education).

development of vision and informed thought requires constant reflection on practice. For Williams (1998) reflection is often initiated by a 'realisation that the knowledge one was applying to a situation was not itself sufficient to explain what was happening' (p. 30). Reflective practice encompasses not only actions and the reasons underpinning them but also reflection on the actions of others (Schön, 1983, 1987, 1991). It is, therefore, a connection between leadership practice and professional development.

Schön (1983, 1987) distinguishes between two types of reflection: reflection-in-action and reflection-on-action. Reflection-in-action occurs while practicing and influences the decisions made and actions taken. This incorporates the ability to reflect on a problem or situation as it arises. The practice of reflection-in-action is linked to the concept of 'knowing-in-action':

> ...the workaday life of the professional depends on tacit knowledge-in-action. Every competent practitioner can recognise phenomena – families of symptoms associated with a particular disease, peculiarities of a certain kind of building site, irregularities of material or structures – for which he cannot give a reasonably accurate or complete description. In his day-to-day practice he makes innumerable judgements of quality for which he cannot state adequate criteria, and he displays skills for which he cannot state the rules and procedures. Even when he makes conscious use of research-based theories and techniques, he is dependent on tacit recognitions, judgements, and skilful performances.
>
> (Schön, 1983: 49-50)

The second mode of reflection – reflection-on-action – is a conscious exercise after the event. Here, reflection is often documented or recorded. Intuitively, reflection-on-action is less problematic that reflection-in-action. It is a process whereby practitioners reflect on actions or situations and try to increase their understanding of the event. The knowledge arising from the reflective processes – perhaps aided by the use of reflective writing – enhances the practitioner's professional knowledge. This knowledge has the potential to influence future actions and understanding of new situations.

Although there are frequent references to reflective practice, there is a lack of definition and clarity evident in the literature (Atkins & Murphy, 1993). A number of terms are used synonymously with reflection. These include: critical thinking; reviewing; problem-solving;

critical enquiry; reflective judgement; reflective thinking; and critical reflection. Moon (1999) identifies a number of different ways in which 'reflection' is used. For example, reflection in used to suggest the process of learning and the representation of that learning. Reflection implies purpose in that practitioners typically reflect for a reason. Furthermore, reflection implies the cognitive process of reflecting: while the endpoint of reflection may not be a resolution to a problem, it may lead to a better understanding of the issues at hand.

Eraut (1994) is critical of Schön's model of reflective practice because there is insufficient discrimination between the different forms of reflection depicted. This over-generalisation, it is argued, causes confusion and weakens the theoretical interpretation. A further concern is that in order to cope with complex and ever-changing scenarios, a practitioner must develop habits and routines. Although in practice the time for reflection-in-action is short, the author agrees that it has an impact on practitioner behaviour. Specifically, reflection can be viewed as a theory of metacognition and is influential in directing skilful behaviour during professional action. It is characterised by a rapid interpretation of information and decision-making in the midst of action (Eraut, 1994: 142-149).

Despite the criticism of reflective practice – in particular, the difficulty in differentiating between metacognition, reflection-in-action and reflection-on-action – the desire to encourage critical reflection on practice is a recurring theme in professional development initiatives. References to reflection in the context of school leadership can be found in documents produced by *Leadership Development for Schools* (2002), the *National College for School Leadership* (Pavlou, 2004), and the *New Zealand Ministry of Education* (2007a). When reflective practice in professional development is raised, it usually refers to reflection-on-action. In this mode, reflection is not a spontaneous action: it is a deliberate act. Consequently, reflection has to be both learned and encouraged (Gelter, 2003). The rationale for incorporating reflective practice as a professional development methodology is that it is essential to understanding the link between practitioner knowledge of a given situation, and the making of the most appropriate decision with respect to the available information (White, 2002: 2).

If reflective practice can help practitioners to understand their experience, then this becomes a legitimate objective for professional development initiatives. This understanding

of experience also prompts a re-evaluation of practice. Central to the practice of reflection is that one of the outcomes is that the practitioner may need to contemplate changes in both outlook and in practice (Day, 1999). This implies that continuing professional learning programmes that identify reflective practice as a valued approach must address at least two challenges. First, there is the challenge of identifying methods whereby reflective practice is inculcated as a core leadership activity. This will require the development of a concept of reflective practice that is applicable to the practitioner's context. Reflective practice is context specific and if the concept is poorly understood, then it may be reduced to an exercise in 'rule following' (Boud & Walker, 1998). Secondly, if the objective of reflective practice is to prompt practitioners to explore their own actions and understandings – perhaps in collaboration with others – then professional development programmes must address ways in which changes in leadership knowledge and practice can be accommodated. These dual challenges lie at the centre of continuing professional learning initiatives. However, the identification of reflective practice as a professional learning methodology without identifying supporting strategies is unlikely to prove beneficial.

One practical support to reflective practice is the preparation of learning or reflective journals (Moon, 1999, 2006). Essentially, journal-writing can: slow the pace of learning; increase the sense of ownership of learning; acknowledge the role of emotion in learning; give learners and experience of dealing with ill-structured material of learning; encourage metacognition; and enhance learning through the process of writing (Moon, 2006). One of the benefits of using writing to support reflection is that it generates a body of text that can be subjected to considered scrutiny. The committing of thoughts, observations, and ideas to a medium facilitates the sharing of these reflections. They also provide reference points so that observations and perspectives can be revisited and changes in a practitioner's personal knowledge base explored. In short, the commitment of reflections to a medium – written or otherwise – is deemed to enhance the process of reflective practice.

Action Science

Although not generally associated with school leadership development initiatives, action science is introduced here as a means to enhance professional learning. Action science links closely with reflective practice. This is most evident from a consideration of the concepts of

framing and reframing. When a practitioner develops an interpretation of a context or problem, this interpretation is framed with respect to the practitioner's world-view and experience. These frames may represent unchallenged assumptions and a practitioner may not be consciously aware of them. However, where practitioners become aware of their frames, they also become aware of the possibility of framing their practice differently (Schön, 1983: 310). As Argyris (1999) points out, learning depends on the interpretation of events, and these interpretations are filtered through frames. However, by their nature, frames are 'unfalsifiable' (p. 13). This gives rise to the possibility that practitioners will engage in circular or self-referential reasoning when attempting to increase their understating of how these frames shape practice.

Action science is a 'critical theory' that 'aims to produce knowledge that evokes critical reflection among practitioners so that they might more freely choose whether and how to transform their practice' (Argyris, Putnam, & Smith, 1985: 232). Within the approach, the focus is on a process of critical enquiry, conducted in a professional learning context, into matters of practice. The key feature of this learning context is

> that it is expressly designed to foster learning about one's practice and about alternative ways of constructing it. It therefore pushes back some of the constraints inherent in real-life contexts in order to enable participants to come to know their practice as they have defined it and to experiment with new moves and competencies characteristic of a new definition. This means that the aim is in part to make known what is known so well that we no longer know it—the uncovering of tacit knowledge so that it might be critiqued.
>
> (Argyris et al., 1985: 237)

Action science seeks to help practitioners understand the complexity of the social contexts within which they operate. It is an interventionist approach and may include activities conducted in groups and work guided by facilitators. It is in this interpretation that action science is most closely associated with action research. In particular, there are linkages between action science and participatory action research (Argyris & Schön, 1991; Foote Whyte, 1991). Participatory action research is an action research approach that involves participants acting as both research subjects and researchers. Where the distinction between action science and participatory action research is most evident is in participatory action research's closer focus on social structures and processes. Action science, on the other

hand, focuses on interpersonal relations. It also anticipates the intervention of an action research team, so that there is greater rigour and control over the research process (Foote Whyte, 1991: 97). Both action science and participatory action research approaches expect that there will be identifiable changes in participant thinking and practice. It is also noted that these processes may lead to changes in researcher thinking.

Practitioner research is identified as a key requirement for both individual development and organisational development (Argyris, 1999, 2004; Argyris et al., 1985; Kemmis, 2006; Leadership Development for Schools, 2003a; McKernan, 1999). As an approach within the practitioner action research tradition, action science is concerned with organisational as well as individual learning. The essential characteristic of action science is that of enquiry into 'how humans design and implement action in relation to one another.' The approach calls for research and theory building that are related to social intervention. Participants engage in a process of 'public reflection that attempts to both comprehend the concrete details of particular cases and to discover and test proposition of a general theory (Argyris et al., 1985: 4). Thus, one of the key methodologies in supporting the development of meaningful learning is individual and collaborative reflection and critique. These practices are typically supported – at least in the initial stages – by a skilled moderator or facilitator.

Central to action science are the concepts of theories of action, Model I and Model II behaviour, single-loop and double-loop learning; espoused theories, and theories-in-use (Argyris, 2004; Argyris & Schön, 1974). A number of methods to support action science have also been identified, chief among these being the 'left- and right-hand column case method' (Argyris et al., 1985). These concepts and methods are briefly explored here.

Theories of Action

Individual practitioners possess 'mental maps' that guide them as to how to act in various situations (Argyris & Schön, 1974). These maps influence the way in which individuals plan, implement and review their actions on an ongoing basis. The term used by Argyris and Schön to describe these maps is 'theories of action'. However, most people are unaware of the theories or maps that underpin their action (Argyris, 1980). The researchers suggest that there are two influential theories of action involved. One type of theory of action—referred to as *theory-in-use*—influences our day-to-day practice. Our theories-in-use are the internal

maps that influence us to act in a given manner in a given situation. A contrasting theory of action—*espoused theory*—refers to the way we convey what it is that we are doing and thinking, or what it is that we want others to think that we are doing. One approach to improving practitioner effectiveness is to reduce the dissonance between a practitioner's espoused theories and his or her theories-in-use (Argyris, 1980). This approach is predicated on the finding that most individuals are unaware of the theories or maps that shape their practice. To achieve greater congruence between the two types of theory in action, the role of *reflection* is emphasised.

Model I and Model II Theories in Use

Theories of action are the rules, patterns, and propositions that individuals use when designing, implementing, and reviewing their actions. Two types of theory in use are identified, referred to as Model I and Model II (Argyris & Schön, 1974). Model I theory of action is characterised by a number of 'governing variables,' including: defining goals and trying to achieve them; maximising winning and minimising losing; minimising expressing or generating negative feelings; and being rational and minimising emotionality. These elements promote associated actions. Operating within a Model I modes leads to attitudes of defensiveness, mistrust and internal competition. Practitioners experience low internal commitment to an organisation's goals and may exhibit decreased effectiveness. Behaviour such as unilateral managing and planning, attitudes of over self-protection and the protection of others, and a desire to own and control tasks may also be in evidence. Model I practices are practices that inhibit participants from experiencing embarrassment or threat and prevents them from identifying and correcting the causes of threat or embarrassment. Behaviour within the model does not encourage the testing or validation of claims and it encourages the over-protection of participants. Also, learning is inhibited as the detection and correction of non-routine errors is avoided. By avoiding conflict, difficult issues are not raised and, consequently, not addressed. Overall, the possibility for organisational and individual learning is reduced.

While not directly contrary to Model I behaviour, Model II theories of action are characterised by: maximising valid information; having free and informed choice for all concerned; having high internal commitment to the choice; and monitoring the implementation of choice. Actions designed to ensure practitioners experience personal

success and can exercise joint control over tasks are central to the model. Operating in this mode can have a number of consequences, such as increased collaboration, higher levels of individuality, open confrontation on difficult issues, greater public testing of theories, and minimally defensive interpersonal relations. Model II behaviour is characterised by the questioning of goals, by testing the validity of claims, and by recognising the gaps between theories-in-use and espoused theories. Within Model II action, it is acknowledged that most innovations are likely to prove inadequate, at least in some respects, and that careful, transparent monitoring of implementation is necessary. Where actions are considered to have been effective, those operating from a Model II perspective open these actions to public scrutiny. Model II practitioners acknowledge that such openness may be potentially threatening. They also recognise that such openness is necessary to increase trust within the group or organisation. However, research suggests that organisations and individuals typically espouse theories of action that are Model II in orientation, but that observable behaviours (theories in use) are more closely aligned with Model I action (Argyris, 2004; Argyris et al., 1985; Argyris & Schön, 1974).

Single-Loop and Double-Loop Learning

Aligned with Model I and Model II theories of action are, respectively, 'single-loop' and 'double-loop' learning. Single-loop learning can be said to be in play when goals, values, and strategies are not exposed to critical examination. Double-loop learning, on the other hand, is concerned with the 'surfacing and resolution of conflict rather than with its suppression' (Argyris & Schön, 1974: 19). Therefore, while single-loop learning is concerned with improving techniques and methodologies to achieve established objectives, double-loop learning exposes the objectives themselves to questioning and critique.

The 'Case Method' Approach of Argyris and Schön

A key objective of reflective practice is to help the practitioner match appropriate actions to the situation at hand. In double-loop learning, a practitioner assesses the inner dynamics of situations and encounters and tries to determine why certain actions are effective and others are less effective (White, 2002). Interventions to facilitate double-loop learning can be focused on individual or organisational learning. The goal of the intervention is to help practitioners 'reflect upon their skilled incompetence and skilled unawareness, and their

counterproductive consequences' (Argyris, 2004: 129). On 'skilled incompetence' and 'skilled unawareness' – which are related to Model I behaviour – Argyris makes the following observation:

> Double-loop learning, in a world dominated by Model I and organisational defensive routines, is not a recipe for a 'positive,' 'feel-good,' 'politically correct' action. It requires, therefore, not only changes in theory-in-use but also changes in the organisational culture context involved.
>
> Theories-in-use, be they Model I or Model II, are generated as human beings learn to act skilfully and consistently with their requirements. The necessity to be skilful in order to create the designs-in-use generates a puzzle. Model I produces actions that are skilful yet incompetent because they produce consequences that the actors do not intend. The actors are unaware of their skilful incompetence while producing it.
>
> (Argyris, 2004: 11)

What emerge as important for individual and organisational learning are strategies to support critical reflection and double-loop learning. One intervention to supporting double-loop learning is the left-hand/right-hand case method (Argyris, 2004; Argyris et al., 1985). This method requires each individual in the group or organisation to prepare a paragraph describing a key organisational problem as they perceive it. The participant then assumes that they could interact with another person of their choice. They describe the strategy they would adopt at this meeting in another paragraph. The next step is to divide their writing sheet into two columns. In the right-hand column, the participant describes how they would begin the meeting. In the form of a scenario, the participant writes what they said and they also write down what the other party to the meeting said. In the left-hand column, the participant writes down any idea or feeling that they had that they felt that they could not communicate, for whatever reason. In summary, the left-hand/right-hand case method requires a participant to prepare:

- A written statement of the problem or scenario under consideration;
- An outline of the strategy that they intended to use to begin to solve the problem;
- An account of the actual conversation that occurred—or that would likely occur—between the participant and the other party to the meeting; and

- Details of the information that the participant did not or could not communicate to the other party.

The method then requires participants to reflect on their writing, particularly on the thoughts and feelings expressed in the left-hand column. The next step is for participants to begin to 'redesign their actions.' This may be supported by the interventions of a facilitator and references to Model II behaviours (Argyris, 2004).

Thoughts and feelings not communicated	***Actual conversation***
He's not going to like this topic, but we had to discuss it. I doubt he will take a company perspective, but I should be positive	**Self**: Hi Bill. I appreciate the opportunity to talk with you about the problem of customer service versus product. I am sure both of us want to resolve it in the best interests of the company.
	Bill: I'm always glad to talk about it, as you well know.
I better go slow. Let me ease in.	**Self**: there are an increasing number of situations where our clients are asking for customer service and rejecting the off-the-shelf products. My fear is that your sales people will play an increasingly peripheral role in the future.
	Bill: I don't understand. Tell me more.
Like hell you don't understand. I wish there was a way I could be more gentle.	**Self**: Bill, I'm sure you're aware of the changes (and explains).
	Bill: No, I don't see it that way. It's my sales people that are the key to the future.
There he goes, thinking as a salesman and not as a corporate officer.	**Self**: Well, let's explore that a bit ...

Table 1: Example of Case Method Analysis (Argyris, 1999: 63)

In Table 1 above, an example of case method analysis is reproduced (Argyris, 1999: 63). The effect of the exercise is to prompt and to support reflection on action. Ultimately, the process is intended to generate revised perspectives on action and to increase understanding of the attitudes that influence behaviour. This approach also emphasises an area of commonality between reflective practice and action science. The use of reflective writing is again identified as a means to stimulate practitioner thinking and to help to expose this thinking critique and revision.

Mentoring

Mentoring is consistently emphasised as a core professional learning methodology. While the role of a mentor is implicitly associated with an experienced practitioner providing guidance and support to a less experienced peer, the mentor/protégé relationship is difficult

both to define and to explore. Mertz et al. (2004: 544) identify two central considerations with respect to mentoring. The first is the likelihood that not all supportive relationships can be considered as mentoring. For example, mentoring may be differentiated from peer support, sponsoring, and formal academic guidance. The second consideration is that there exists a largely unexplored assumption that the mentor is committed to achieving the same goals and objectives as the protégé. This may become evident in circumstances where, for example, mentors do not model the behaviour anticipated by programme designers (Harris, Ballenger, & Leonard, 2004). Furthermore, at least some mentoring experiences are deemed to be negative ones from the perspectives of protégés. Some practitioners in a mentoring arrangement have encountered mentor self-absorption, neglect, incompatibility, sabotage and deception during their mentoring experiences (Eby, McManus, Simon, & Russell, 2000). A final consideration is the lack of empirical data to support claims on the effectiveness of mentoring as a professional learning support. Evidence on the effectiveness of mentoring is based primarily on the perceptions of mentors and protégés involved in the process involved in the process (Hobson, 2003).

In designing mentoring interventions, it is useful to differentiate between a *role model* and a *mentor*. According to Daresh (2004), a role model is someone who is consulted periodically to learn how to undertake actions such as developing a school timetable, conduct parent/student conferences, or handle the school's budget. It may be conceived of as a form of professional apprenticeship. Mentoring goes significantly beyond this type of relationship. A mentor is likely to raise more questions for the protégé that they answer. They will 'prod' the beginner to learn to do something according to their own skill and talents (p. 503). However, despite the importance of mentor selection, there is a tendency to regard formal training as being unnecessary. This is related to a view that effective mentors can be identified principally by reference to their practical experience (Daresh, 2004: 510). Where this approach is evident, and where there is a distinct absence of formal training for mentors, then the relationship is more correctly described as role-modelling or peer support.

Despite the lack of clarity surrounding the practice, as well as the inherent dangers of a poorly-designed mentoring programme, mentoring continues to be identified as a central plank of school leadership development. In particular, mentoring is seen as a valuable support to newly-appointed school leaders. References to mentoring in formal professional

development initiatives can be found in literature prepared by NCSL in England (National College for School Leadership, 2005) and by LDS in Ireland (Leadership Development for Schools, 2003b). Other examples can be found in relation to Australia (Zammit et al., 2007), and Canada (Casavant, 2001). The intuitive and self-reported benefits of mentoring make it an attractive and justifiable inclusion in programmes designed for new and beginning school leaders. Furthermore, benefits are deemed to accrue to mentors as well as protégées. While protégés report that they experience increased confidence in their abilities, mentors report that they regarded the exercise as having a positive effect on their own professional development (Ehrich, Hansford, & Tennent, 2004). This resulted from them being prompted to reflect on their professional practice as well as increasing opportunities for them to establish networks of colleagues.

Finally, it is suggested that an effective mentoring arrangement requires the support of a bounding community of practice. Although consideration tends to focus on the interactions between mentor and protégée, there are subsidiary relationships that bolster the formal mentoring arrangement. A mentoring relationship between two practitioners is unlikely to emerge spontaneously. More usually, effective mentoring programmes are incorporated within the broader context of a community or continuing professional learning programmes. Therefore, the mentoring process is enhanced through the existence of relationships other than that directly between mentor and protégée. Examples of these relationships would include the structures to support the training of mentors and arrangements for the assessment of the process from the perspective of programme designers, mentors, and protégées.

Portfolio Development

The development of a professional portfolio is a practical tool that can support the related processes of action research and reflective practice. There is significant research on the effectiveness of portfolio building for student learning and for the professional development of teachers. Doolittle (1994) suggests that the teacher portfolio can be regarded as an educational tool that supports both accreditation and professional development. A portfolio may include: teacher profile and background; written examinations; a personal statement or philosophy of education; educational objectives; documentary evidence of efforts to improve practice; video/audio recordings of classroom practice; peer observation reports; and

photographs of projects, artefacts, and chalkboards. For Hom (1997), the teacher portfolio represents an 'organised collection of information that documents the teacher's accomplishments attained over a period of time, across a variety of contexts, and provides evidence of his or her effectiveness. Research on the use of teacher portfolios suggests that they can have a positive impact on teacher professional development (Ashford & Deering, 2003; Tucker, Stronge, Gareis, & Beers, 2003; Xu, 2003). Benefits include: enhancing teacher understanding or professional standards; supporting reflective writing; encouraging and supporting risk-taking; promoting on-going learning and development; and supporting a model of professional teacher evaluation.

Looking at the use of portfolio in higher education, Orland-Barak (2005) sums up the many claims made for portfolios to support critical reflection:

- Portfolios encourage learners to take more responsibility for their learning.
- Portfolios help monitor progress and performance.
- Portfolios provide an alternative assessment instrument.
- Portfolios support the exploration of feelings, values, beliefs and dispositions.
- Portfolios can be collected over time.
- Portfolios support deliberation on practical teaching matters.

In essence, the portfolio is seen as a vehicle for the promotion of critical reflection. However, the successful introduction of portfolios is influenced by at least three key factors (Tartwijk, Driessen, Vleuten, & Stokking, 2007). First, there is the relationship between the learning goals that the portfolio is intended to support and the structure and content of the portfolio. The inherent flexibility of a portfolio means that the structure can be modified to suit the learning needs of a wide range of practitioners. The second factor is the influence of the learning environment within which portfolios are introduced and used. This consideration relates to how the development of a portfolio links to other teaching and learning supports. Third, there is the influence of the context within which the portfolio is introduced. Where a portfolio requirement is introduced as part of an educational innovation,

practitioners will be required to change existing routines and practices so that the development of a portfolio can be accommodated. For example, the introduction of portfolios as a mandatory requirement for professional accreditation may take a very different form from one intended to support reflective practice throughout a leadership career.

Increasingly, portfolio development is identified as a key part of preparatory and continuing professional development for school leaders. As with portfolios for teacher development (O'Toole, 2002), the school leadership portfolio can support three interrelated requirements:

The Portfolio as Evidence of Professional Achievement

A portfolio can support a claim that criteria and standards with respect to professional competencies have been achieved. The portfolio can contain references, transcripts, evidence of courses completed and other relevant professional qualifications.

The Portfolio as a Repository of Key Leadership Materials

A portfolio may also catalogue material – for example, texts, research findings, citations, summaries of protocols, bibliographies – that may be used on a ongoing basis to support school leadership action as well as personal research.

The Portfolio as a Critical-Reflection Tool

A portfolio supports the critical reflection process, which underpins reflective practice for professional learning. The portfolio can include a personal mission statement or expression of a personal philosophy on school leadership. A more challenging use of the portfolio is to support personal and collaborative reflection and discussion. The objective is to help the practitioner to critically review his or her own practice, over time, and to develop a framework within which possible changes and future directions may be explored.

Although in many instances the primary role of the portfolio is to support the award of a professional qualification, the capacity of the portfolio to enhance continuing professional development is recognised. Essentially, the professional portfolio is flexible and can be tailored for different purposes and audiences. It can be an effective support to reflective

practice, particularly through supporting a problem-solving and action-oriented approach to leadership (Schwartz, 2003). In practice, a portfolio may incorporate physical objects, such as awards, certificates, and memorabilia. Digital representations of these objects can be included in an electronic portfolio. While the general description of a portfolio may range from a generally unstructured configuration of writings and artefacts to a standards-based portfolio with a mandated structure, by their nature, they retain the capacity to be expanded and developed over time. The inclusion of portfolios in the learning scenario recognises that professional learning takes place over extended periods of time and in multiple contexts.

The development of a portfolio offers many possibilities to support a process of continuing professional learning. This potential is enhanced through the use of electronic or web-based portfolios. The most immediate benefit of developing an electronic portfolio is that the boundaries of a paper-based artefact are diminished. As a first consideration, the range of artefacts which an electronic portfolio can store is greatly enhanced. The electronic portfolio can incorporate a reflective journal, multimedia recordings, aide-mémoires, mind maps, task or 'to-do' lists, reading materials, links to online resources, and access to online discussion communities. The potential for the electronic portfolio to support learning is further enhanced where the artefact is considered in relation to a virtual learning environment and where this environment is used to support a community of practice. These characteristics are emphasised with the previous continuing professional learning supports of reflective practice, action science, and mentoring in mind.

There is limited evidence in the literature to confirm the effectiveness of portfolios– particularly electronic portfolios– as a support to school leadership development. Despite these uncertainties, the preparation of a portfolio is frequently stipulated as a requirement to support assessment for the award of a professional qualification in school leadership. For example, a portfolio is required to support assessment for the award of the *Scottish Qualification for Headship*, the *National Professional Qualification in Headship* in England, and in an increasing number of school districts in Canada and the United States of America. The development of a portfolio is also envisaged as part of the LDS *Misneach* programme, although this has yet to be implemented.

The feature most emphasised is the capacity of the portfolio to support critical reflection (Dixon & Dixon, 2002; Lyle & Hendley, 2007; Mansvelder, Beijaard, & Verloop, 2007; Orland-Barak, 2005; Ross & Welsh, 2007; Schwartz, 2003). Given that reflection can take multiple forms, the increased flexibility inherent in an electronic portfolio is advantageous. However, where the effectiveness of an electronic portfolio can be maximised is when the portfolio is embedded within an online community of practice. These online communities are, in turn, supported within a virtual learning environment. Although elements of a portfolio will obviously remain private, the capacity for electronic portfolios to incorporate shared learning spaces is beneficial. Including elements such as shared concept maps, collaborative writing exercises, online discussion threads, and communal online workspaces vastly increases the potential for collaborative learning. As a pragmatic support to reflective practice, electronic portfolios can also foster activities such as mentoring and action science approaches. For example, the portfolio can be used to record reflections arising from interactions with a mentor. Engagement within a virtual learning environment also enables a mentor to effectively engage with multiple protégées. Similarly, action science methodologies such as the case method analysis can be conducted effectively in an online environment. These analyses, in turn, feed into the individual and collective reflective processes that characterise a community of practice.

3.3 Professional Knowledge

Descriptions of the nature of knowledge that underpin practice are articulated by Oakshott (1981, original 1962) and Ryle (2000; original 1949). Following Aristotle, Oakshott differentiates between 'technical' and 'practical' knowledge. Technical knowledge is generally understood by reference to the physical sciences. A characteristic of technical knowledge is that it is capable of being assembled into a published form. By contrast, practical knowledge is expressed only in practice and is learned through experience and engagement. Ryle (1947) exemplifies this difference by suggesting that these forms of knowledge suggest a distinction between 'knowing that' and 'knowing how'. Although the two proposed forms cannot be cleanly separated, they remain useful constructs in establishing the characteristics of professional knowledge. However, efforts to describe professional knowledge are complicated by the possibility that much of practitioner knowledge is tacit and cannot be revealed (Polanyi, 1969).

Eraut (1994) suggests that professional knowledge comprises three elements: propositional knowledge, personal knowledge, and process knowledge. The first of these elements – propositional knowledge – is reflected in theories and concepts associated with an area of practice. These theories and concepts are typically associated with characteristic professional practice and with reference to established and trusted case studies. Procedural knowledge – related to understanding the skills and procedures associated with a field of practice – is incorporated in Eraut's description of propositional knowledge. The second element – personal knowledge – is represented by 'a personal knowledge base that incorporates notes and memories of cases and problems which have been encountered reflected upon and theorised to varying extents' (Eraut, 1994: 17). While it may be possible to distinguish propositional knowledge from personal knowledge, during practice the two elements are intertwined. For Eraut, these two elements are not sufficient to explain the nature of professional knowledge. This requires the identification of the third element of professional knowledge, process knowledge. Process knowledge is 'knowing how to conduct the various processes that contribute to professional action' and includes knowing how to access and use propositional knowledge (p. 107). Therefore, both personal and professional knowledge are embedded in process knowledge. A number of processes are associated with professional action, including: acquiring and giving information; skilled behaviour; planning and decision-making; and the combination of processes that guide a practitioner's activities.

One approach to examining the relationship between professional knowledge and professional action is through a consideration of what Argyris & Schön (1974) term *espoused theories* and *theories-in-use*. These concepts, introduced in Chapter 3.2, page 69, are briefly reviewed in reference to professional knowledge. When a practitioner is asked how they would behave in a given situation, the response is typically framed in terms of an espoused theory. This articulated theory is 'the theory of action to which he gives allegiance, and which, upon request, he communicates to others' (p. 7). For the authors, however, the actions of a practitioner are more acutely governed by theories-in-use. While a practitioner may not be able to explain the theories-in-use governing his or her behaviour, they can be inferred from examining behaviour and action. Theories-in-use are cognitive schemata which influence and shape human action.

Leadership Schemata

Cognitive schemata can be identified as constructs that will influence leadership action in a given context. As such, they are comparable to theories of action. A characteristic of leadership is that is takes place in the midst of challenging and complex interactions. In this respect, leadership can be contrasted with more routine actions by regarding it as a complex form of problem solving in social contexts. Leadership problems tend to be ill-defined, to be complex, and to have elements of conflict. Within the model proposed by the Mumford et al. (2000), leaders begin to address organisational problems by initially defining the problem at hand and to then develop a framework that supports a clearer understanding of the problem. The next step is the formulation of initial solutions. While attention at this point is focused on the problem, the leader's experience, the nature of the organisational environment, and the leader's knowledge of their role will influence how the problem is conceptualised and the manner in which appropriate solutions are formulated. Consequently, problem solving in organisational contexts involves multiple forms of cognition and the application of concepts or schemata that constitute professional knowledge. Furthermore, leadership knowledge transcends the accumulation of information. Rather, this knowledge is characterised by a structured organisation of facts and principles. Significantly, the literature suggests that novice practitioners have, when compared to expert leaders, access to fewer cognitive maps or concepts to inform their decision-making (Mumford, Zaccaro et al., 2000).

The leadership schemata that shape action, whether conceptualised as cognitive maps or theories of action, are a legitimate focus for leadership development. If experienced leaders have at their disposal a repertoire of cognitive schemata, then a clearer understanding of how these schemata are developed becomes important. Also of importance is how these internal configurations of experience and knowledge influence leadership action. Leadership knowledge incorporates the technical and propositional knowledge associated with a given sphere of activity. School leadership knowledge would, for example, encompass an understanding of legal and regulatory contexts, of approaches to financial control and regulations, and appropriate methods of marshalling resources. This understanding would also extend to knowledge of theories of learning and of leadership. However, if the interpretation of this technical and propositional knowledge is filtered through personal schemata, then these cognitive maps must be a concern for leadership development

initiatives. While these cognitive frameworks cannot be examined directly, reflection on action and engagement in dialogue can expose aspects of these schemata to critique.

Variation Theory of Learning

If professional knowledge can be identified as a construct shaping action, then professional learning emerges as a necessary corollary. This in turn prompts consideration of the contexts and methodologies that support professional learning. Broadly, consideration of learning contexts and methods in embodied in the concept of *situated learning*. This concept holds that learning is an integral element of social practice. More specifically, learning can be characterised as *legitimate peripheral participation* in communities of practice (Lave & Wenger, 1991). Legitimate peripheral participation is not a teaching methodology or a pedagogical approach. It is proposed as a means to describe learning as arising from engagement in social practice (p. 35). Although this approach emphasises that learning can occur in unstructured, informal contexts as well as formal instructional settings, the nature of the learning situation is of central importance. For Marton & Booth (1997), a learning situation exhibits a *relevance structure*. This is described as the person's experience of what the learning situation requires, what is expected of them, and how the relevance of the situation is interpreted by the learner (p. 143). The relevance structure of a situation, then, plays an important role in how a learner comes to experience a phenomenon in a different way than before. Essentially, this entails the learner

> ...becoming capable of discerning and separating aspects of a phenomenon the learner has not been able to discern and separate previously, and of being simultaneously and focally aware of aspects she had not been able to be simultaneously and focally aware of previously. A change in one's capability of experiencing that phenomenon can only come through a change in one's way of experiencing that phenomenon.
>
> (Marton & Booth, 1997: 145)

Changing a learner's experience of something and their way of understanding the world requires an element of variation. This theory of learning as variation holds that learning is essentially a change in the way something is interpreted, experienced, or understood (Runesson, 2005). When a learner directs his or her attention to a situation, not all aspects of the situation are to the forefront of the learner's attention. Those aspects of the situation that are to the forefront of the learner's awareness determine how the situation is experienced.

Learning, therefore, is linked to discerning certain features of the phenomenon under consideration (p. 71). Furthermore, central to variation theory is that there is an object associated with learning: how this is experienced and understood is the essence of learning. This suggests the view that learning can be understood as differentiation rather than enrichment (Emanuelsson & Sahlström, 2008).

Although variation theory has been researched primarily in the context of the classroom teaching of children, it is identified here as a useful framework for understanding professional learning in adults. The importance of the learning situation in providing opportunities for learners to encounter variations on previous experience is emphasised. It is further suggested here that variation and discernment with respect to previous experience influence the cognitive schemata which underpin leadership action. Therefore, approaches to school leadership development may profit from the application of the principles underlying variation theory. As a starting point, this would require an appreciation of the influence of individual experience on professional learning. This arises from a consideration of learning as experiencing, understanding, interpreting, or perceiving a phenomenon or situation in a different way. The approach also places an emphasis on the context within which learning is situated. That learning situations can be both formal and informal is consistent with a view that professional skills and knowledge develop in the context of fulfilling organisational leadership roles (Mumford, Zaccaro et al., 2000).

The challenge posed by variation theory is to establish contexts where school leaders can experience variation on prior experiences and where revised interpretations support the development of new or enriched leadership schemata. Variation theory is identified as an appropriate theory of learning upon which to ground approaches to continuing professional learning. It is also an appropriate vantage point from which to identify pragmatic supports to the continuing professional learning process.

3.4 Learning Communities

As a support for professional learning, the context of a learning community is well established. Different classes of learning community – together with different definitions of the concept – can be identified. For Senge (1992), learning communities lie at the heart of learning organisations. However, there are occasions where the terms 'community' and 'organisation' are interchanged. This tendency – notably with respect to the work of Senge – has led to calls for the development of a clear description of the relationship between community and organisation. The absence of a robust account of community, for example, makes it difficult to know what action can be taken to enhance communities within places of work (Fielding, 2001: 15). Despite the lack of clarity on the nature of a learning community, two categories of community are commonly encountered in education. These categories – professional learning communities and communities of practice – are explored briefly here.

Professional Learning Communities

Effective learning communities typically exhibit a number of key characteristics. Briefly, these are: shared values and vision; collective responsibility; reflective professional enquiry, collaboration, group and individual learning, mutual trust, respect and support among members, inclusive membership, openness, networks, and partnership. (Stoll, Bolam, McMahon, Wallace, & Thomas, 2006). One category of community, the professional learning community, is frequently used as a metaphor for an effective school. Arising from the work of Hord (1997, 1998, 2007), a professional learning community is, inter alia, a community committed to purposeful and sustained enquiry and improvement. Characterising schools as professional learning communities is supported by the identification of a number of key attributes (Hord, 1997). These are:

- *Supportive and Shared Leadership*: The school principal actively engages staff in the leadership process. Principals, together with teachers, must be actively engaged in questioning established practices and seeking solutions to identified problems. This leads to a new relationship between principals and teachers. This relationship is characterised by the development of shared values and goals as well as a commitment to personal and organisational learning.

- *Collective Creativity*: Within a professional learning community, practitioners from multiple constituencies collaborate. This collaboration is centred on reflective dialogue where practitioners engage in discourse around issues of teaching and learning. This professional enquiry supports the development of new knowledge and the application of new ideas to problem solving.

- *Shared Vision and Values*: A defining characteristic of schools as professional learning communities is their consistent focus on student learning. Within these communities, each practitioner is accountable for his or her actions and 'the common good is placed on a par with personal ambition' (p. 21). The focus is on the quality of student learning rather than on structural and organisational matters.

- *Supportive Conditions*: There are two categories of conditions that influence the reshaping of a school as a professional learning community: physical conditions and human conditions. The physical or structural configuration of the school – incorporating factors such as the physical size of the school, time available for meeting and planning, and the proximity of staff to one another – all influence the quality of education. Human conditions also define the nature of a learning community. A key characteristic in an effective community is willingness, on the part of practitioners, to accept feedback and to commit to ongoing improvement. Other characteristics include: shared decision-making, collegial relationships, development of a sense of community, engagement in ongoing enquiry, and striving for continuous improvement.

- *Shared Personal Practice*: Sharing experiences of classroom practice is identified as a support to the development of a professional learning community. Teachers are encouraged to share successes and failures with colleagues. This professional dialogue is conducted in an atmosphere of mutual understanding and respect.

Hargreaves & Fink (2006) unpack the core principles implicit in the descriptor 'professional learning communities'. As communities, they are characterised by people who are committed to a common purpose. These communities include not only teachers, but also students, parents and adults working in other contexts within the school. Learning – deep, not superficial – is the core activity of the community. Finally, these communities are

professional in their treatment of dissonance and disagreement, and the use of formal evidence to support decision making. These features of schools as professional learning communities reflect the importance of social contact and interaction for learning. The concept of a learning community, then, becomes a powerful metaphor for meaningful and sustained learning (Garrison, D. R. & Anderson, 2003; Garrison, R. D. et al., 1999; Hargreaves & Fink, 2003; Lin, Lin, & Huang, 2008).

Professional learning communities have important implications for school leaders. School principals in particular will be influential in shaping schools as learning communities. This will demand proficiency with respect to a host of leadership competencies. The challenges to leading a professional learning organisation will include:

- Deep insight into, and understanding of, situational context. The culture of a school is influenced by histories and rituals as much as by objectives established in formal policies.
- The development and articulation of educational principles that provide the framework within which the effectiveness of day-to-day actions are assessed. This evaluation is not concerned solely with the effectiveness of actions in achieving educational objectives. Practices are also examined to ensure that they are defensible when examined within a framework that combines ethical, moral, and professional imperatives.
- Promoting concepts of school leadership that recognise that leadership roles are distributed throughout the organisation.
- Identifying opportunities to enhance learning on the part of all members of the school community.
- Developing structures, systems, and physical environments where these activities can be sustained.

Another consideration is the communities that form around school leaders as an identifiable category of practitioner. For example, school leaders may participate in a learning community comprised of practitioners from other schools within a district. This community of school leaders has the potential to support professional learning. Consequently, the establishment of networks is frequently cited as a policy objective for

professional development initiatives. A further example is the formation of communities characterised by practitioners in similar school types or who are at an identifiable stage of a leadership career path. We may encounter communities comprised of leaders of urban schools, or communities established to support newly-appointed principals. It is the establishment of learning communities to support the professional development of school leaders that is of most interest here.

Communities of Practice

Professional learning communities may be considered as a class of learning community within the broader category of communities of practice. For Wenger (1998), participation in a community of practice has a number of implications for individuals and for organisations. For individuals, learning becomes an issue of engaging with and contributing to the characteristic practices of their communities. In turn, the issues for communities centre on the refinement of practice and ensuring that the community enjoys new generations of members. For organisations, learning requires the development and maintenance of interconnected communities. These linked communities are the means by which 'an organisation knows what it knows and thus becomes effective and valuable as an organisation' (p. 8).

Typically, practitioners participate in multiple communities of practice. Lave and Wenger propose that, 'a community of practice is a set of relations among persons, activity, and world, over time and in relation to other tangential and overlapping communities of practice' (1991: 98). Membership is not defined by social category, nor is it dictated by proximity or by geography. A community of practice is characterised by three interlinked factors, each of which is related to practice and where each contributes to sustaining the community. Chief among these is *mutual engagement*. A community of practice is not merely a collection of people, nor is it comparable to a team, group, or network. Rather, it is mutual engagement which defines a community. Mutual engagement gives rise to relationships within a community of practice. *Joint enterprise* is an important source of cohesion and supports the development of relationships within the community. The enterprise of a community is not simply a statement of purpose. It arises from meanings derived from negotiation within the community that reflects the complex patterns of mutual engagement. The joint enterprise of

a community is also related to concepts of internal accountability and the relationship between the community of practice and its environment. Finally, the development of a joint enterprise gives rise to characteristic practices, language, symbols, and artefacts. These elements come together to constitute what Wenger calls a *shared repertoire*. A shared repertoire of practices and artefacts reflects the history of mutual engagement within the community (Wenger, 1998).

Communities of practice are closely linked to learning and to the social construction of knowledge. Within communities, learners do not acquire quanta of abstract knowledge which is then applied in novel contexts. Learning is a process that takes place in a framework populated with co-learners. This situated learning shifts the focus of learning away from the individual and towards being a process that occurs in a social participatory context. Learning, as a situated activity, is facilitated through engagement with practitioners in a community of practice.

As with the earlier discussion on professional learning communities, communities of practice raise challenges for school leaders. These challenges stem from the position of school leaders as members of multiple communities of practice as well as being charged with supporting the development of communities of practice. For example, school principals are putative members of the community of all school leaders. The community that comprises all school principals is not a pragmatic organisational unit. Although the artefacts, symbols, and language may be indicative of a community or practice, it is unlikely that the set of all principals will be organised into a cohesive entity capable of cooperative learning. However, where sub-sets of school leaders are identified – for example, newly-appointed leaders, principals of rural primary schools, or deputy-principals of post-primary schools – the development of communities of practice becomes a realistic proposition.

While these sub-sets may not identify themselves formally as communities of practice, they display many of their key characteristics. For example, a common language base and lexicon of educational terms facilitate the exchange of information and dialogue around experiences. However, the core features of a community of practice – the social construction of knowledge and collaborative learning – are more difficult to discern. While the changes in cognitive processes leading to enhanced leadership capacity may resist scrutiny,

constructivist perspectives support the act of reflecting on and sharing experiences as a means to make these processes overt. Programmes of continuing education for professionals can assist them to understand their experience, to make it more explicit by sharing those experiences, to support their interpretation of experience, and to recognise this experience as the basis for future learning (Eraut, 1994).

Online Communities of Practice

Increasingly, communities of practice incorporate virtual or online elements. Although the literature is replete with references to online learning communities, it is rare that such communities would operate exclusively in virtual environments. Typically, communities of practice incorporate online and face-to-face components. Where there is a coherent and structured relationship between online and offline/face-to-face components, an online learning community cannot be neatly separated from its constitutive community of practice. The relationships that underpin learning within a community of practice are shaped by interactions in both the virtual environment and the face-to-face environment. The use of ICT to support learning within a community may be described as *computer-supported collaborative learning* (Schrire, 2006). Focusing on asynchronous computer conferencing, Schrire suggests that teaching and learning within such an environment is dialogic in nature. Essentially, learning is mediated through social discourse (p. 51).

The establishment of online communities of practice is a feature of the wider application of technology to support learning. References to e-learning, virtual learning, online learning, and computer-mediated learning are now commonplace in descriptions of programmes. However, as an interplay of learners, instructors, courses of study, technology, design, and environment, the challenges in establishing online learning environments are significant (Sun, Tsai, Finger, Chen, & Yeh, 2008). Despite these challenges, significant benefits to learners and organisations are reported. For example, the use of technology can be instrumental in supporting a move away from 'traditional' modes of teaching. The development of an online learning community can support a shift from a reliance on lecture-style teaching methodologies and towards the establishment of problem-based, self-directed learning modules (Dalsgaard & Godsk, 2007). Engagement with online learning

communities has also contributed to increasing the retention fates of students considered to be at risk of dropping out of their respective programmes (Hughes, 2007).

Looking at online communities of practice for professional development, there are few reports on their effectiveness for school leadership development. Some inferences can be drawn, however, for the literature on teacher professional development. Significantly, engagement in sustained online discourse is identified as an effective support to critical self-reflection. Through sustained dialogue in the context of online environments, teachers have come to reflect on and to question their stance on the professional issues that influence their day-to-day practice (Kelly, Gale, Wheeler, & Tucker, 2007). Despite these apparent successes, the difficulties in assessing the nature and sustainability of practitioner learning remain. This concern is highlighted by reports that, at least in some instances, demands on practitioner time can result in a superficial engagement with an online environment. One example found that while practitioners used online search engines to find ideas, they failed to use online resources to engage in sustained professional dialogue with peers. As a result, few practitioners were members of online communities (Moore & Chae, 2007).

While online communities of practice may vary greatly in their composition, activity, and longevity, they use discourse and dialogue to build individual and collective understanding. It is this discourse that is at the centre of learning within a community of practice (Kirschner & Lai, 2007). The ways in which discourse can be supported can be increased through the development of an online element. The availability of a variety of communication technologies is significant as communities typically communicate using different media and do not rely on a single medium such as bulletin boards or discussion forums (Preece & Maloney-Krichmar, 2005).

3.5 Virtual Learning Environments and School Leadership Development

The use of virtual learning environments to support the professional development of school leaders continues to attract interest. A virtual learning environment is an increasingly common element of formal programmes of professional development. Although the deployment of virtual learning environments in institutions of higher education is well established, the development of online environments to support school leadership

development is a more recent phenomenon. Essentially, a VLE includes a suite of technological components that facilitate activities such as synchronous and asynchronous communication, document storage and retrieval, document preparation, assessment, and participant tracking. Ongoing developments in technology allow for the incorporation of distributed computing technologies as well as the establishment of online work spaces to support specific projects. A variety of tools – not limited to a single physical or proprietary network – can be harnessed to fulfil the technological requirements of a virtual learning environment.

That ICT is identified as playing a key component in continuing professional development is consistent with the high profile adoption of technology in education and training initiatives. At undergraduate level, the use of online learning platforms is increasingly common. The platforms may be tailored for specific purposes and acronyms such as VLE (virtual learning environment), CMS (course management system), MLE (managed learning environment), LMS (learning management system), and LCMS (learning content management system) are encountered. While it is usual to differentiate between a virtual learning environment (a system designed to support teaching and learning via the use of information and communications technology) and a managed learning environment (which is considered to incorporate learning environment elements together with other artefacts such as learner record databases), both systems are grounded in the wider framework of computer mediated communication (CMC). Examples of platforms to support the deployment of virtual learning environments in primary, post-primary and higher education include:

- Blackboard (http://www.blackboard.com)
- FirstClass (http://www.firstclass.com/)
- Moodle (http://moodle.org/)
- Plone (http://plone.org/)
- COSE (http://www.staffs.ac.uk/COSE/)
- Studywiz (http://www.europe.studywiz.com/)

- Serco Facility Learning Platform (http://www.serco.com/markets/education/schools/learning_platform.asp)
- Fronter (http://fronter.info/com/)
- Microsoft® Sharepoint Learning Kit (http://www.microsoft.com/education/SLK.mspx)

These systems, together with the wider availability of high-speed internet connections, provide inducements for institutions to explore the use of VLEs to support teaching and learning. Reviewing the requirements for third-level institutions, Britain & Oleg (1999) suggest that the primary technological elements of a VLE are:

- A Noticeboard or Announcements Area
- A Course Outline and Schedule
- A Built in Emailer
- Asynchronous Conferencing Tools
- Synchronous Collaboration Tools
- Class List & Student Homepages
- Metadata
- Assignments
- Assessments
- Multimedia resources
- File-upload Area
- Calendar
- Search Tools
- Bookmarking

- Navigation Model

These elements are usually found in a server/client configuration for a online environment. With developments in networking technology, an additional specification to consider is to allow users to download and work with portions of a course. Upon reconnection to the environment, the user's work is synchronised with the main database. This greatly increases the flexibility of the learning environment.

However, as cautioned by Stiles (2002), the expectation that institutions adopt online learning technologies may lead to the deployment of systems that do not take adequate cognisance of the pedagogic challenges inherent in this model of teaching and learning. This raises the danger that initiatives may be short-lived and have little long-term impact on effective learning. An additional consideration is that it is relatively rare for a community to exist entirely in a virtual environment. Practically all communities of practice would endeavour to incorporate face-to-face components. A more likely scenario is that considerable efforts will be made to coordinate the learning and interaction that is conducted in both the face-to-face environments and the online environments.

On 'Blended Learning'

It is appropriate to draw attention to references to 'blended learning' when considering virtual learning environments. Implicit in the term is the use of a combination of methodologies to support the processes of learning, some of which are conducted in face-to-face settings while others occur within an online environment.

Blended learning for school leadership development generally implies a combination of instructor-led learning activities in face-to-face contexts and learning activities located within a virtual learning environment (Leadership Development for Schools, 2003b; National College for School Leadership, 2007). Similar references to blended learning are evident in higher education in areas such as professional development for university teachers (Davis & Fill, 2007), improving student support and retention rates (Hughes, 2007), and enhancing traditional lecture-based teaching through the use of web-based materials (Dalsgaard & Godsk, 2007). Despite the increasing references to blended learning, the term

is problematic. Definitions of blended learning are typically situated within one of three related themes (Whitelock & Jelfs, 2003):

- The combination of traditional learning with web-based online approaches;
- The combination of media and tools employed in an e-learning environment; and
- The combination of a number of pedagogic approaches, either dependent or independent of the use of learning technology.

References to the concept, therefore, require an account of the context within which the learning is to take place. But, as summarised by Oliver and Trigwell (2005), the term 'blended learning' is used inconsistently, means different things to different people, and, despite its popularity, there is no common conception of its meaning. Despite the inadequacies of the term, blended learning has popular currency in trying to convey the combining of new technologies and 'traditional' methodologies in pursuit of learning.

In the field of school leadership development, a specific concern is the implicit use of the concept of blended learning in place of a clearly articulated theory of professional learning. While leadership development programmes invariably make references to theories and models of leadership, what are less-well articulated are the theories that underpin professional learning. Consider, for example, the rational for blended learning proposed by the National College for School Leadership (2006):

> Blended learning combines the best features of online learning such as 24x7 accessibility, with the best features of classroom instruction such as live, face-to-face interaction.
> It allows the combination of multiple approaches to learning; self-paced, collaborative or inquiry-based study, and can be accomplished through the use of blended virtual and physical resources. Facilitators should be looking for opportunities to develop learning using emerging practices, including new technologies such as mobile learning.

Here, and elsewhere, blended learning is promoted as a guiding theory of learning. It is implicit that blended learning facilitates the coalescence of multiple approaches to learning into a unified concept. But the identification of the potential of technology to support learning in multiple contexts does not in itself constitute a theory of professional learning. Blended learning is more correctly understood as a set of contexts for professional learning

rather that a theory of learning itself. Although the multiple contexts associated with blended learning may be configured as effective learning situations, they do not in themselves adequately identify the activities with which learners engage in order to develop their professional knowledge. How these multiple contexts and, presumably, multiple pedagogies combine in support of professional learning is unknown. Therefore, the use of the term blended learning is inadequate to either convey effective pedagogy or to suggest a robust theory of professional learning.

Virtual Learning Environments for Continuing Professional Learning

The introduction of an innovation such as a virtual learning environment should contribute demonstrably to the achievement of professional development objectives. One of the key areas in which a virtual learning environment can support professional learning is through the development of online communities of practice. As noted in Chapter 3.4, learning communities increasingly encompass both online and face-to-face learning. This is a notable feature of contemporary approaches to school leadership development. The combination of face-to-face and online interactions poses a particular challenge for programme designers. These challenges are amplified where programme designers may also fulfil roles such as programme deliverer and online facilitator.

In a review of an online learning community for school leaders in Britain (Ramondt, Chapman, & Powell, 2002), a number of specific strategies for facilitators are identified. These strategies are not detailed here but are signposted as important considerations when defining the work of the online facilitator. Briefly, a facilitator for a online community will:

- Match the rhythm and pace of the school year.
- Ensure pro-active contact with learners.
- Foster champions.
- Create a clear sense of audience
- Help navigation by structuring the number of contributory items and providing site maps.
- Develop a social, fun environment to generate a sense of community.

- Emphasise philosophy.
- Fulfil heads' [school leaders'] needs for information and support.
- Encourage readers of online contributions to move to participation.
- Determine appropriate community size.
- Be aware that patterns of use will change over time.
- Organise face-to-face events.
- Ensure questions are answered.
- Encourage ownership and appropriation.
- Use tools innovatively.
- Hold 'hotseats' and online events with prominent guests.
- Ensure each new community created has a clear purpose.
- Foster networking and online practice.
- Frame questions to ensure participation.
- Keep knowledge current.

A facilitator, therefore, needs to be highly skilled, capable of interacting with users who are at different stages of their professional development and who have different levels of ICT capability. In short, effective facilitation is essential for the success of the learning environment.

Evaluating the Effectiveness of a Virtual Learning Environment

User statistics and participant reports on their experiences are the predominant means by which the effectiveness of a VLE is gauged. The rational for the development of online learning communities by, for example, the NCSL, is underpinned by a belief that 'authentic collaboration' between school leaders enhances educational provision (National College for School Leadership, Not dated). Comparisons between VLEs on the basis of user access rates

are also evident. A report on the *Heads Together* online environment (Granville & Bell, 2006) established by *Learning and Teaching Scotland* states:

> Usage of Heads Together compares favourably with NCSL established norms and year on year monthly figures show a consistent rising record (between 20% and 40% of members visited the community each month. This compares favourably with the NCSL established norm of 10%).

Although detailed figures for user access to the NCSL online environment, *Talk2Learn*, were not available, indicative figures for effective online communities are reported. For a large community of practice – with approximately 50,000 members – 10% of members visiting is considered adequate. Of those visiting, a target of 15% of visitors contributing on two or three occasions is identified. For a smaller community, perhaps established to support a project, 75% of members would be expected to visit. Of these, 50% would be expected to leave between four and five contributions. Within a community established as part of a continuing professional development course, 100% of members would be expected to visit. All participants would be expected to make in excess of five contributions to online discussion forums (National College for School Leadership, 2007: 63). Similarly, in Northern Ireland, candidates for the *Professional Qualification for Headship (NI)* (PQH(NI)) must participate in online elements of the programme. Tutors 'must verify that a candidate has made at least two significant contributions to three out of the four module discussions online' (Fitzpatrick, 2007: 76).

A requirement for investigating the use of CMC technology to support learning is that it should draw on relevant understanding of how learning occurs. However, meaningful learning and underlying cognitive processes are difficult to identify. To try to examine the influence on the use of ICT to support learning, a number of approaches focus on evidence of critical thinking within online discussion forums. While surface examinations of online discussions – such as the number of contributions and the length of posted messages – may be useful starting points, more comprehensive methods are necessary to try to establish the existence of collaborative knowledge building and critical thinking. Even when using multiple methodologies and triangulation techniques, identifying instances of knowledge construction is difficult. Nevertheless, a number of frameworks have been developed to

increase understanding of how computer-mediated communication can support learning. Three of these frameworks are examined briefly here.

Subject-Community-Object Relationships: Hew & Chung 2003

Hew and Cheung (2003), drawing on the work of Cole and Engeström (1993), extend activity theory as a useful framework within which to examine human practices, contexts, and processes. The interplay of subject, tools, rules, community, roles, and objects are mediated in a series of processes to achieve desired outcomes. These processes are represented in Figure 5 below.

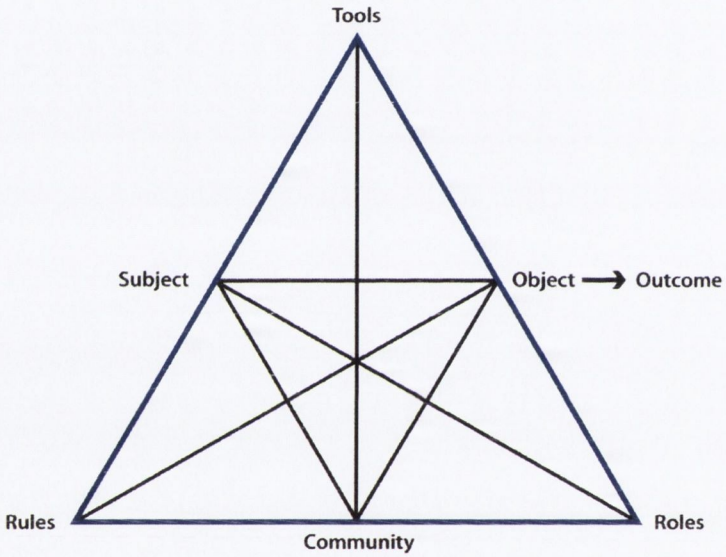

Figure 5: Processes within an activity (Hew & Cheung, 2003)

Tools are used by subjects (persons) to achieve a give object (goal). The use of these tools, and the selected objective, are governed by rules established between subjects and other members of the community. Tools, therefore, mediate processes between the subject and object. Processes between the community and the desired goal are mediated by roles. Extending this model to an asynchronous online discussion forum, the subject is considered a member of a learning community. This community comprises learners, educators, and other contributors. The members of these communities use ICT tools to facilitate asynchronous discussion (Hew & Cheung, 2003: 2).

The model also supports an examination of how a contributor to an online discussion forum interacts with other members of the community to achieve a desired learning outcome. The triad of *subject-community-object* gives rise to questions on how teachers and learners

interact, what type of thinking skills are exhibited, and what types of information processing is evident in the online postings. These questions can be treated within two categories: interaction between online learners and cognitive processes evident within the community (Hew & Cheung, 2003: 3). Essentially, evaluating the effectiveness of an online learning community requires an examination of:

- How do the learners and teachers interact with one another in the online environment?
- What type of thinking skills do the learners exhibit during their online discussion?
- What levels of information processing do the learner's exhibit in their message postings?

Examining these aspects of online discussion necessitates the application of methods such as Henri's *Cognitive Skills Model* (1992), Garrison et al.'s *Community of Enquiry Model*, and Gunawardena et al.'s *Interactive Content Analysis Model*. These interaction and content analysis techniques are discussed further in Chapter Four.

Modes of e-Moderating: Salmon, 2000

Salmon (2000) identifies modes of facilitation that are necessary with respect to the developing skills of the participant (see Figure 6 below). At Stage 1, the ability of individuals to access and use the online facility is a prerequisite. At Stage 2, participants establish their online identities and seek others with whom to interact and communicate. At Stage 3, participants exchange information relating to the course or programme with which they are involved. At Stage 4, group discussions develop and there is a greater degree of collaborative interaction based on common understandings. The final stage (Stage 5) sees participants seeking more ways in which the system can help them to achieve personal goals. They begin to integrate their online learning into other modes of learning. Participants also begin to reflect on their own processes of learning.

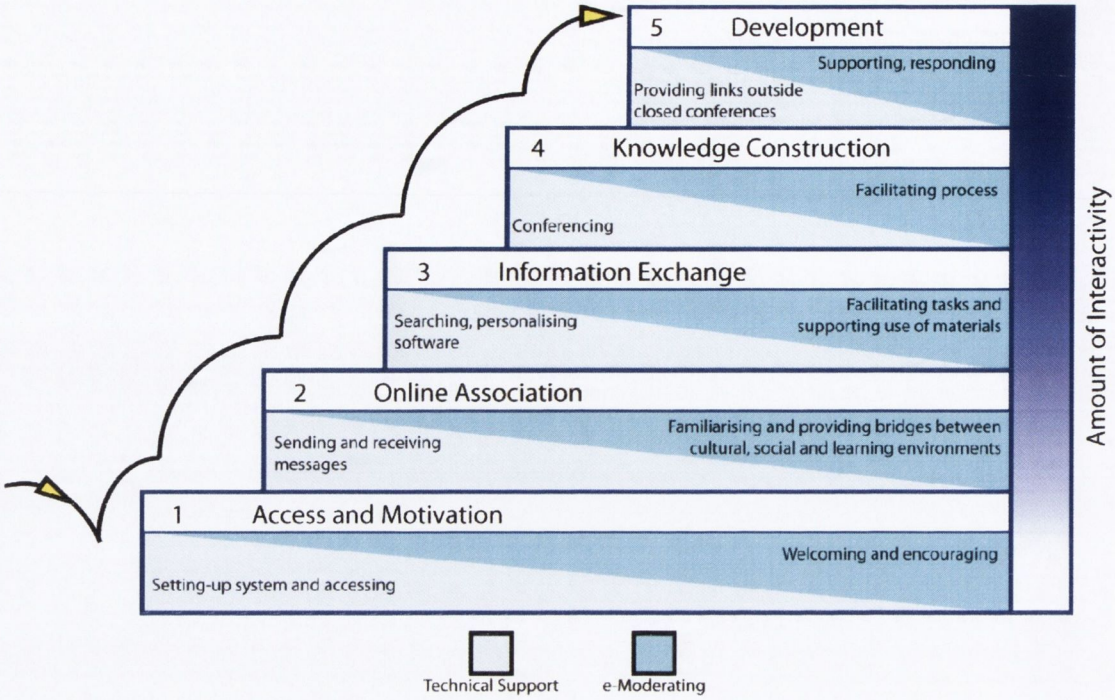

Figure 6: Salmon's model of teaching and learning online

Each step in the model includes requisite technical skills (shown in the bottom-left of each step) and 'e-moderating (facilitation) skills (shown in the top-right of each step). Shown along the column on the right of the diagram is the level of interactivity between participants that is envisaged. At Stage 1, participants interact only with one or two other users of the system. Accordingly, the facilitator welcomes the participants and encourages them to identify areas of interest. As participants progress, the numbers with whom they interact increases. The role of the facilitator also changes to accommodate these developments. The facilitator promotes accessing and using learning materials in collaboration with other users. As participants approach Stage 5, interactivity reduces as users begin to explore individual interests and areas of development. Here, the facilitator can adopt the role of a 'critical friend,' encouraging participants to develop new knowledge and understanding.

Implicit in the model is that the effectiveness of a virtual learning environment can be gauged from the nature of the interactions between facilitators and participants. As facilitators support participants in more complex ICT-related tasks, and as online interactions suggest the development of knowledge, then the effectiveness of the learning environment can be inferred.

Seddon/NCSL Model of Online Learning Behaviours

Seddon, in collaboration with NCSL (National College for School Leadership, 2007), has developed a model of online learning behaviours applicable to school leaders. In Figure 7 below, a number of behaviours are categorised. The model is derived, in part, from the experiences of the NCSL in the implementation of their online learning environment.

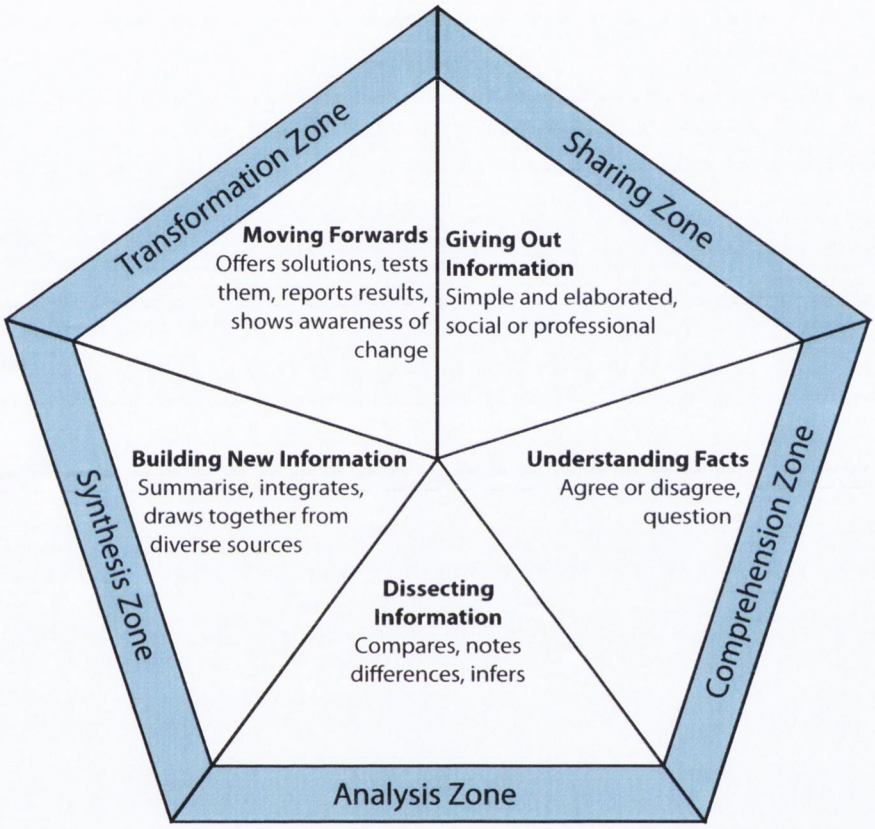

Figure 7: Seddon-NCSL model of online learning behaviours

The objective of this taxonomy is to guide tutors and participants within the *Talk2learn* environment to review their online discussions (National College for School Leadership, 2007: 65). Assessing the effectiveness of the environment to support professional development is recognised as a complex undertaking. Data from the online environment can be categorised with reference to the effort required to compile data and with respect to the usefulness of the data in supporting interpretations of the environment's effectiveness.

Evaluation is supported by reference to indicative online responses or comments within each of the zones. The type of questions facilitators might ask of themselves, and the type of participant comments indicating activity within a given zone of behaviour, is tabulated below

(see Table 2). These self-reflective questions for online facilitators, together with the sample responses, are identified as indicators of the type of learning being supported within the discussion forum.

Zone	*Facilitator Question*	*Sample Participant Response*
Sharing Zone	How can I encourage participants to offer personal information - to create an atmosphere for sharing, and professional knowledge to enrich the dialogue?	"Mark - sounds like a great holiday! Could you tell me more about how you have organised your department?"
Comprehension Zone	How can I model making comments that agree or disagree with contributions (with reasons for this) and asking for more information towards understanding?	"I agree Claire because this is a key element in improving learning. Was this common practice?"
Analysis Zone	How can I model pulling out common threads from contributions and presenting them in the debate, and also pointing out differences between contributions?	"The answer to the problems you both describe has to be collaboration – though your contexts are very different"
Synthesis Zone	How can I model summarising a group of contributions? How can I encourage participants to bring information (links) from outside this debate to enrich it?	"A number of participants have highlighted the issue of [topic] ... there are useful resources at www.[website name].com"
Transformation Zone	How can I encourage participants to think of how this information might lead to action, state this in the debate and report on any results? How can I model commenting on learning (or change) that has come through this online interaction?	"Have others tried a virtual debate about good practice and elearning. John's description has moved my thinking forward"

Table 2: Seddon-NCSL indicators of learning behaviour in online communication

The authors recognise that identifying the depth and nature of learning within online environments is challenging. These challenges stem from a difficulty in assessing effective learning as well as pragmatic difficulties in collecting, collating, and interpreting data to support analysis towards this objective. In Table 3 below, a matrix indicating the relative difficulty of obtaining and the usefulness of user data is reproduced (National College for School Leadership, 2007: 62). The matrix indicates, for example, that obtaining 'Participation and contribution percentages' within the system would require 'medium' effort and that these data would have 'medium' usefulness is assessing learning. Analyses of 'visitors and contributions data from systems reports' are flagged as requiring 'low' effort but of 'high' usefulness'.

Usefulness	Effort: Low	Effort: Medium	Effort: High
High	Visitors and contributions data from systems reports	Management summary showing change since previous month. Participation and contribution percentages. Headline figure for senior management	
Medium	Monthly line graphs inform facilitators about the progress of their community		
Low		Graph comparing cohorts analysing the percentage of members that visit and percentage of visitors that contribute	Weekly graph of visits and contributions, annotated to show activities and levels of learning

Table 3: Matrix of user data derived from VLEs

In general, the data referred to are based on statistical reports generated within the online system. There are references within the approach to examining the nature of individual contributions, although this is not emphasised within the matrix. For example, the matrix does not incorporate interaction or content analysis models designed to evaluate the quality of learning in online interactions. Certainly, the application of these models to the analysis of online contributions would occupy a 'high' effort cell within the above matrix. The data arising would, however, also prove to be highly useful is evaluating learning within the environment.

3.6 Discussion

Formal programmes of school leadership development are now a feature of most systems of education. Within these programmes, a number of approaches to support professional learning are evident. Many of these approaches anticipate interaction and relationship-building between practitioners. The most pointed example of this form of professional learning is the establishment of a mentor/protégé relationship. Other forms of intervention include: establishing learning communities of practitioners; mentoring, peer support and

coaching; reflective practice; portfolio development; and CMC-supported learning (e-learning).

In Ireland, while there is no requirement for a formal qualification in school leadership, there has been an increase in the number of elective programmes available. In general, school leadership development requires consideration of two related issues. The first of these is the need to identify a supply of school leaders to meet the requirements of an education system. This requirement typically leads to the development of a leadership profile or matrix of leadership competencies to assist in the identification of suitable candidates. The second consideration relates to providing opportunities for emergent, newly-appointed, and established leaders to develop the skills and competencies necessary to fulfil the role.

Many of these professional learning interventions draw on the concept of a leadership model or profile to guide their development. However, these leadership profiles are not agreed and the identification of appropriate leadership skills remains contentious. For example, approaches to school leadership development, such as those developed by NCSL and LDS, have been criticised for their implicit acceptance that the primary role of school leaders is the implementation of official school policies. Consequently, the development of reflective, critical practitioners is not adequately addressed (Thrupp, 2004; Travers & McKeown, 2005).

Data on practitioner engagement with development programmes over extended periods of time is not available. However, with the exception of part-time programmes of study offered by colleges, continuing professional learning programmes provided by organisations such as professional representative bodies tend to be offered within a relatively short time-frame. In some instances, a programme may be completed in a single day. Others, such as those offered by LDS, may run over extended periods of time. Participants may meet face-to-face as a group on perhaps five occasions over two years in the case of the Misneach programme. Overall, a feature of these programmes is that they are of short duration and occur relatively infrequently for individual practitioners, In other words, while a programme may run on an annual basis, new cohorts of practitioner avail of the programme each year.

In light of these characteristics, a more apposite description of this approach might be *punctuated* professional development. This is not a suggestion that programme designers

adopt a revised description of their work which may, on first encounter, be considered a facetious and disparaging description. It does, however, serve to highlight the limitations of prevailing approaches of continuing professional learning.

Identifying ways in which professional development can be fostered requires a supporting theory of learning. One of the most ubiquitous references to ongoing professional development is that of reflective practice. While the concept may be poorly understood, meaning different things to different people, it is frequently referred to within continuing professional development programmes. Understanding reflective practice as a continuing professional learning approach is enhanced when it is considered in conjunction with two other elements: variation theory of learning and action science. Variation theory is identified as a suitable theory upon which to ground professional learning interventions. The theory proposes that knowledge in possible only where the learner can discern a distinction. Having identified an initial distinction, a learner can proceed to discerning differences with respect to both personal knowledge and to the wider contexts of learning and practice (Luhmann, 1990). The second element identified in support of reflective practice is action science. Action science methods seek to identify differences between espoused theories and theories-in-use. A pragmatic approach to this is the use of shared or public reflection. The effectiveness of these approaches can be further enhanced through the use of a skilled facilitator.

Variation theory and action science have the capacity to contribute to what Sparrowe (2005) identifies as 'authentic leadership.' Essentially, authenticity in leadership is not achieved by increased self-awareness of personal values or purpose. Rather, authenticity emerges from a narrative process. This process necessitates inputs from, and dialogue with, other practitioners. School leadership can be enhanced by engaging practitioners in autobiographical and reflective writing. However, there are approaches to engaging other practitioners in the narrative process. Consequently, exposure to different narratives as 'alternative but positive plot lines' provide opportunities for leaders to influence their own future development (Sparrowe, 2005: 436).

The objective of continuing professional learning interventions is the development of professional knowledge. As a concept, professional knowledge comprises procedural

knowledge, propositional knowledge, personal knowledge, and process knowledge. Essentially, professional knowledge is the key influencing factor on leadership action. For practitioners, individual knowledge arises from a combination of principles, facts and experiences that come to be represented as schemata. These cognitive maps – or theories of action – are influential in deciding upon a course of leadership action. They are the constructs through which leadership roles and challenges are interpreted.

Significantly, there is a reciprocal relationship between these cognitive maps and experience. Schemata are not static constructs: they change and evolve in light of new experiences and exposure to new thinking and practices. This does not confirm that there is a causal relationship between exposure to new thinking, the development of new schemata, and demonstrable changes in practice. However, what is supported is that leadership action is mediated through these cognitive maps. This proposal, then, identifies leadership schemata as a primary concern for formal leadership development activities. Put simply, the objective of professional learning programmes encompasses an objective to expand the repertoire of leadership schemata available to the novice practitioner and to enrich the schemata of the experienced or expert practitioner.

If approaches such as reflective practice and action science are identified as means to address professional knowledge, consideration must be given to appropriate learning contexts. The most significant context to arise from the present analysis is that of the community of practice. Typically, leaders will engage with multiple communities of practice. For school leaders, the concept of communities of practice has particular significance given the linking of the development of communities of practice within schools in pursuit of school improvement. As contexts for leadership action and leadership development, communities of practices are closely linked to the collective construction of knowledge. Within these communities, it is the practice of critical discourse and interpersonal reflection that is the key to meaningful learning. However, the development of communities of practice is not well established as a continuing professional learning strategy. As noted, the approach to school leadership development tends to be fragmented or, at best, to be structured over a relatively short period of time. Neither of these tendencies is conducive to the development of sustainable learning communities.

A final consideration is the benefits that can accrue through the introduction of a virtual learning environment. It is the capacity of a virtual learning environment to support communities of practice that is of most significance. However, the introduction of a virtual learning environment in support of professional learning must be linked to an appropriate model of professional learning. In support of this model, the inclusion of action science and variation theory of learning is proposed.

4 Research Methodology and Methods

In light of the uncertainty regarding the impact of educational research, the adoption of appropriate research methodologies is a key consideration for the researcher. Educational research is concerned with critical enquiry, with the objective of contributing to the development of knowledge and wisdom. Questions about knowledge – how knowledge can be found, how it can be recognised, and how it can be used – are fundamental to the act of educational research (Morrison, M., 2007: 18). Any approach to seeking new knowledge will be coloured by epistemological and ontological considerations. A research framework will be informed by assumptions concerning the nature of the contexts and phenomena being examined (Cohen, Manion, & Morrison, 2006: 5). A particular consideration in the present research is the need to draw a number of disparate elements together to inform the development of a coherent model of CMC-supported professional learning.

Two related concepts must be addressed when considering research approaches. First, *methodology* relates to the ideas and rationale that underpin research in a given situation. Second, *method* is the collection of tools and techniques that is used to gather and analyse research data. A methodological rationale provides the framework within which research questions are framed and legitimised. The rationale also influences the type of research methods and techniques that will be considered appropriate. A methodological rational may be expressed with reference to a spectrum of research approaches. This spectrum is typically articulated as running from positivistic/scientific approaches to the contrasting context characterised by research models that are naturalistic, phenomenological, pragmatic, and reflective in nature. Although the tools and techniques employed may differ appreciably, research approaches are characterised by control, rigour, critical investigation, and recognition of the limitations of personal experience and interpretation. The most significant difference between a controlled approach and a 'common sense approach' is the designed consideration of external influences (Cohen et al., 2006). While there may be little agreement on the precise nature of the positivist/interpretive spectrum, the identification of a

critical research stance is characteristic within the contrasting paradigms. The identification of a research paradigm – where a paradigm is deemed to reflect an ontological perspective, an epistemological perspective, and to embrace characteristic research techniques – is an 'acknowledgement of the researcher's belief systems and of the impact a researcher can have on the object of the research' (Grogan & Simmons, 2007: 37).

The debate on the effectiveness and influence of research on educational leadership remains vibrant (Foskett, Lumby, & Fidler, 2005; Levacic, 2005; Teddlie, 2005). Central to this debate is the selection of suitable research approaches. In broad terms, the appropriateness of qualitative and quantitative methodologies is an overarching concern. Within the field of research on school leadership and management, there is a higher proportion of non-empirical 'think-pieces' evident in the literature. Consequently, it can be argued that research in educational leadership and management 'has a relatively weak quality profile within the already relatively weak quality profile of educational research' (Gorard, 2005: 157). The problematic nature of research in school leadership is compounded when, on examination, the concept of leadership fragments. Thus, the treatment of leadership as a fixed property is a flawed perspective, and research on leadership must take cognisance of how leadership knowledge is embedded in the sociocultural environment (Allix & Gronn, 2005). Consequently, effective research on school leadership and management is likely to be embedded in educational practice (Briggs & Coleman, 2007).

The context within which the present research is situated – the professional development of school leaders – is very much influenced by social, political, cultural and historical factors. Furthermore, personal philosophies and personal histories will likely have a significant influence on leadership perspectives, regardless of how difficult it may be to quantify such influences. However, the focus for the research is the development of a virtual learning environment to support the continuing professional development of school leaders. Clearly, the research will draw on data that is quantitative in nature, for example, patterns and frequency of user interaction within the various elements of the environment. An examination of the context for the development of the VLE, however, requires a more interpretive perspective. In addition, an assessment of the impact that the VLE has on supporting critical thinking, for example, requires a combination of qualitative and quantitative methods. A further consideration is the relationship between this researcher and

the research scenario. As noted, the researcher is associated with the initiative on three levels: as a contributor to the development of a VLE model to support school leadership development; as a school leadership practitioner; and as a part-time member of the *Leadership Development for Schools* initiative. With these factors in mind, an action research perspective employing a combination of research methods is deemed an appropriate framework.

4.1 Participatory Action Research and Case Study

The action research approach deemed most suited to the present study is that of participatory action research focusing on a relevant case study. This choice arises from two related considerations: firstly, the relationship of this researcher to the case study context and, secondly, the benefits of case study as an effective approach to the conduct of meaningful educational research.

The relationship of this researcher to the research context – namely, as school principal, member of the LDS team, and author of an LDS-commissioned report of virtual learning environments – is detailed in Chapter 1. Participatory research therefore arises as an important consideration as it is this relationship that has facilitated access to the case study context over an extended period of time. As might be expected, there are sensitivities relating to the examination of a new educational initiative. These concerns arise with respect to individuals involved as well as to government departments charged with overseeing the project. Such considerations resulted in the preparation of a Memorandum of Understanding (see Appendix 1). The Memorandum, while placing no restrictions on the preparation of the research report, does cover publication of research findings.

Characteristics of Participatory Research

Action research anticipates the use of both qualitative and quantitative research methods. Consequently, the research is a 'mixed methods' or 'mixed research' approach. Mixed methods research is described as 'the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study' (Johnson & Onwuegbuzie, 2004: 17). Researchers should, therefore, collect multiple data using a variety of methods. In the present study, mixed method research is differentiated from triangulation: the objective is not to use several

research methods to confirm or refute research findings. Rather, the use of multiple methods is intended to provide a richer interpretation of the events under examination. The adoption of a mixed-methods approach is appropriate given the nature of the initiative under consideration. The approach is also suited to the objective of developing an initial framework to inform the use of CMC technologies for school leadership development.

Within the action research field there are a number of approaches which reflect not only the methods employed, but also the relationship of the researcher to the topic and associated research population. Examples include: participatory action research; practitioner research; action science; collaborative action research; cooperative inquiry; educative research; appreciative inquiry; emancipatory praxis; community-based participatory research; teacher research; participatory rural appraisal; feminist action research; feminist, antiracist participatory action research; and advocacy activist, or militant research (Herr & Anderson, 2005: 2). The defining characteristic of action research as a field is that is it practitioner led: it is research conducted by or with members of an organisation. McKernan (1999: 30), drawing on concepts from a number of action research traditions, identifies the key characteristics of action research as follows:

1. It examines problems which are deemed problematic by the practitioners themselves.

2. The problem or problems under considerations are deemed solvable.

3. Any solutions to these problems require a practical response.

4. A full definition of the situation is not addressed until exploratory research has been undertaken.

5. The goal is to deepen the researcher's understanding of the problem.

6. Case study methodologies are used in an attempt to 'tell a story' about what is going on and how events are inter-related.

7. The case study is reported in terms of the perceptions and beliefs of those in the setting.

8. Action research uses the language of everyday discourse employed by the participants.

9. Action research can only be validated in unconstrained dialogue by the participants.

10. There must be a free flow of information within support groups and between actors in the project.

Participatory action research is applied research in which some of the people in the community under study participate in the design, presentation of results, and discussion of implications. This is in contrast to approaches in which researchers serve as external experts, designing the research project and recommending actions based on findings (Foote Whyte, Greenwood, & Lazes, 1991: 20). Participatory action research may be contrasted with research approaches where members of communities represent passive research subjects and participate only to the extent that they agree to facilitate the project. In comparison, participatory research see members of the community actively engaged in the search for new knowledge and information (Foote Whyte et al., 1991: 20-21). For Kemmis (2006), participatory action research will explore practice in a deep, rich way, and highlight the variety of ways practices are understood. Action research that identifies no 'unwelcome truths' is unlikely to be critical in nature (Kemmis, 2006: 474). Participatory action research is both critical and transformative; it has the capacity to expose established practices and thinking to question and exploration (Kemmis, 2006). Importantly, participatory research encompasses the characteristics of an intervention as well as a research method (Williams, 2007). In essence, the approach entails the collection of information and data, analysis of and reflection on these data, using the knowledge as a basis for improvements, and appropriate dissemination of the results to inform the literature (Tilakaratna, 1990).

The use of participatory action research methods demands that the researcher must guard against a number of possible pitfalls. Frideres (1992) identifies a number of concerns which remain pertinent. The author suggests that a participatory research perspective envisages that all participants engage with all aspects of the research project. Whereas in 'conventional' research there is delineation between researcher and subject, participatory research eschews such demarcation (p. 6). Furthermore, developing a critique of participatory research is problematic because advocates of the approach tend to be vague on what the approach actually constitutes (p. 7). In addition, the approach advocates that 'relations among people must be horizontal and never vertical because the latter relationship suggests a

power/subordinate relation' (p. 8). Finally, the participatory research approach is flawed because it is not concerned for theory building: the focus is limited to a single case which may be 'unique and idiosyncratic' (p.8).

In addition, the present study is open to criticism as a participatory action research approach on the basis that the cyclical process of reflection and action on the part of the researcher is deemphasised. Despite this caveat, the integration of emerging research findings into the ongoing development of the virtual learning environment is characteristic of the approach. Furthermore, many observers are satisfied that objectivity can be adequately accounted for through a well-designed participatory action research project. The potential deficiencies of participatory research can be redressed through the application of a structured approach to case study. In particular, the focus on an educational case study gives rise to a narrative. This emerging story facilitates an in-depth examination of a single attempt at introducing an educational innovation.

Case Study

Among others, Bassey (1999) advocates the use of the case study as an effective educational research approach. To support the case study approach, Bassey (pp. 20-21) suggests a number of claims that, where answered positively, strengthen the use of case study for an educational research project. Briefly, these considerations are:

- What kind of an educational case study is this?
- Is this an empirical enquiry conducted within a localised boundary of space and time?
- Does it examine interesting aspects of an educational activity, or programme, or institution, or system?
- Is it set mainly in its natural context and within an ethic of respect for persons?
- Does it inform the judgements and decisions of practitioners, policy-makers, and/or theoreticians?
- Were sufficient data collected for the researcher to be able ...
    - ... to explore significant features of the case?

  - ... to create plausible interpretations?
  - ... to test for the trustworthiness of these interpretations?
  - ... to construct a worthwhile argument or storey?
  - ... to relate the argument to the literature?
  - ... to convey convincingly to an audience this argument or story?
- Is there a case record which could provide and audit trail to other researchers to validate or challenge the findings, or construct alternative arguments?

In particular, Bassey suggests that a key objective of educational case study is the development of *fuzzy generalisations*. A fuzzy generalisation is a statement that, while making no absolute claim to knowledge, identifies what may be possible or likely in a situation with characteristics comparable to the case study from which the generalisation arises. Here, the case study is the study of a *singularity*: a research project focused on events and phenomena within their natural settings (1999: 47). The capacity of the fuzzy generalisation to support prediction is limited. However, such generalisations can play an important role in theory-seeking and theory-testing in education. Furthermore, the case study provides a research context for the narrative-analytical interpretations of the story of the case study.

The perspective offered by Bassey – in particular, the degree of putative theory building afforded by the development of fuzzy generalisations – is deemed to be a sufficient counterbalance to the criticisms of participatory research offered by Frideres and others. And, in the present research, a further safeguard is the limited references to personal perspectives distilled from the analysis of an action research diary. The research diary is used here, in the main, to chart significant waypoints within the case study narrative.

4.2 Ethical Considerations

Best and Kahn (1989) consider the matter of ethics in research to be more that a consideration of courtesy and etiquette: it concerns the appropriate treatment of people in a

free society. The authors outline a defensible research approach which encompasses a number of key considerations:

- *Informed Consent*: those involved in the research should have a complete understanding of the procedures used in the research, the nature of any risks involved, and the demands that may be placed upon them. This incorporates the freedom to participate or to withdraw from the research.
- *Invasion of Privacy*: To observe or to record behaviour that the subject may regard as private to them is an invasion of their privacy. Also, the use of data such as private correspondence without the permission of the correspondent is also an invasion of privacy.
- *Confidentiality*: all information gathered by the researcher will be treated with the strictest of confidence. There should be no threats to the subject's anonymity and no information should be released without his or her permission.
- *Protection from physical and mental stress, harm, or danger*: the researcher must take all precautions to protect the well-being of research subjects.
- *Knowledge of outcome*: the research participant has a right to receive an explanation of the experimental procedures and results of the overall investigation. This may entail the researcher explaining his or her results and identifying the journal in which the report is to be published.

Bassey (1999) proposes that these ethical considerations can be treated under three main categories: respect for democracy, respect for truth, and respect for persons (Bassey, 1999: 73-74). Respect for democracy recognises that in a democratic society, researchers have the freedom to enquire into matters and, if appropriate, to formulate criticisms of these matters. The freedom to explore and to critique is tempered by the need for the researcher to have respect for the truth and for persons. Respect for truth underpins the collection, analysis, and interpretation of data. The researchers must not – either intentionally or unintentionally – deceive themselves or others. Furthermore, give that data collected will essentially be derived from other people, the researcher must recognise initial ownership of the data. This will entail a respect for the dignity and privacy of others.

In educational research the ethical considerations may transpire to be extremely complex and subtle. Researchers may find themselves facing 'moral predicaments which may appear quite unresolvable' (Cohen et al., 2006: 49). For the authors the bedrock of ethical procedure is the principal of informed consent. Informed consent protects and respects the right of self-determination. Consent also places some of the responsibility on the participant. The authors provide the following guidelines for reasonably informed consent:

1. The explanation of the procedures to be followed and their purposes.

2. A description of any discomfort and risks reasonably to be expected.

3. A description of the benefits reasonably to be expected.

4. A disclosure of appropriate alternative procedures that might be advantageous to the participant's.

5. An offer to answer any enquiries concerning the procedures.

6. An instruction that the person is free to withdraw consent and to discontinue participation in the project at any time without prejudice to the participant.

With respect to action research, Eikeland (2006: 39) suggests that there are certain obligations and consequences inherently implied in the structures and techniques adopted in the approach. The research instruments are not neutral: they have normative content (p. 39). While there are many different descriptions of what constitutes action research, the methods gravitate towards 'standards for how people, as insiders can and should investigate their own realities and practices' (p. 40).

For the present study, all members of the LDS team were informed of the research, that it was participatory in nature, and that the research would inform the ongoing development of the virtual learning environment. The proposal to conduct the research was also approved by the *Internal Management Committee* (IMC) of the LDS initiative. This body is responsible for the overall management of the programme. Furthermore, initial findings and implications were discussed with members of the team. From time to time, research findings were incorporated into formal review meetings of the initiative.

Memorandum of Understanding

During the negotiations to secure permission to conduct the research, a *Memorandum of Understanding* was prepared. The key provisions of the Memorandum are:

- The overarching research methodology is that of participatory action research;
- Participants play a key role in the interpretations and analysis of data emerging from the research;
- Knowledge arising from the research is used to guide future actions as part of a reflective practice cycle;
- An action research approach seeks to integrate reflective practice into the professional development of participants, mentors and tutors;
- During the early stages of the implementation of the virtual learning environment, fulltime and part-time members of the LDS team will constitute the initial research population;
- The standard research practices of confirmed confidentiality and anonymity are emphasised;
- The Memorandum grants permission to the researcher to use data arising from the research in the preparation and submission of a dissertation;
- Further written permission is required for the publication or other public disclosure of research findings.

The Memorandum is signed by the researcher and by a senior representation of the *Leadership Development for Schools* initiative. The permission a senior official at the *Department of Education and Science*, which is responsible for funding the initiative, was required for LDS to agree to the conditions contained in the Memorandum.

4.3 LDS *LIVE*: A Case Study

Central to the gathering of empirical data is a case study surrounding the introduction of a virtual learning environment by the *Leadership Development for Schools* (LDS) initiative. The timeframe for the case study is from December 2003 to July 2008 (approximately 55 months). During that period, the researcher's relationship with the initiative changed. In December 2003, the researcher was invited to prepare a background report on virtual

learning environments to support the work of LDS. Subsequently, in collaboration with members of the LDS team, the researcher worked to develop a model for an online environment that incorporated the use of electronic portfolios (eportfolios). A prototype virtual learning environment was developed and, for a brief period, used by members of the LDS team. Following a tender process in 2005, a commercial enterprise was appointed to provide core technology to support a VLE for school leadership development. An examination of the development of LDS *LIVE* (*Learning in a Virtual Environment)*, as the virtual learning environment came to be known, is carried out in Chapter Five.

This examination will highlight issues relating to the deployment of a virtual learning environment in support of school leadership development. Given the timeframe of the case study, it is possible to address phases of design, procurement, implementation, and review. Issues arising will inform approaches to the use of CMC technologies for continuing professional learning.

Questionnaire: Data from Programme Designers

While questionnaires are a convenient way to gather research data, they present a number of potential pitfalls for the researcher. Firstly, the use of a questionnaire represents an intrusion into the life of the respondent (Cohen et al., 2006: 245). Respondents cannot be compelled or coerced into completing and returning a questionnaire. Reactions to receipt of an invitation to complete a questionnaire will be coloured by a multitude of factors, including: personal affinity for the topic being addressed; relationship with, or knowledge of, the researcher; personal energy; time-frame for completion of the questionnaire; and questionnaire medium (for example, whether paper-based or online).

Questionnaire Design

The purpose of the questionnaire is to identify factors influencing the effectiveness of the virtual learning environment. As noted, the role played by the members of the LDS team in designing and delivering CPD programmes is pivotal. Two factors are identified as potential influences in the development of the virtual learning environment. First, the extent to which LDS team members have access to, and are familiar with, technology will have a bearing on their readiness to embody the online environment into professional development programmes. Second, perspectives on what are considered effective professional learning

strategies will influence how those designing and delivering LDS programmes will use a virtual learning environment.

Therefore, the questionnaire will provide data in the following areas:

- Data relating to the professional profile of the respondent:
    - Gender;
    - Role within the *Leadership Development for Schools* initiative;
    - LDS programmes with which the respondent is involved;
    - Type of school in which the respondent works or, prior to secondment, had worked;
    - Leadership role played in that school.
- Perspectives on professional development strategies and competencies:
    - Rating the key leadership activities and competencies required of the school leader;
    - Rating the effectiveness of strategies and supports for the professional development of school leaders.
- Access to, and use of, information and communication technology:
    - ICT artefacts available to respondents at home;
    - ICT artefacts available to respondents at work;
    - Availability and type of internet access;
    - Frequency of ICT-related activities, such as word processing, email, and accessing websites;
    - Experience of accessing online forums or virtual learning environments.

- Perspectives on the role of virtual learning environments for school leadership development:
    - Rating the importance of stated objectives for an online environment with respect to supporting continuing professional learning;
    - Identifying the key contributions that a virtual learning environment will make to professional development for school leaders.

Data from the questionnaire will provide a background that will assist in the interpretation of patterns of user interaction within the VLE itself.

The questionnaire was deployed via an online survey facility[25]. The survey instrument allowed for the use of dichotomous question types, multiple choice questions, and questions requiring the use of rating (Likert) scales. The questionnaire also used open-ended questions requiring a typed response. A print version of the questionnaire is included in Appendix 2.

Piloting the Questionnaire

Initially, three versions of the online questionnaire were prepared. The first one was to familiarise this researcher with the format and style of online questionnaires. The second was a pilot questionnaire, which was distributed to five practitioners, one of whom was a full-time member of the LDS team. One volunteer also reviewed a printed version of the questionnaire. The question relating to effective professional development support for newly-appointed school leaders (Q. 18: see Appendix 1) was restructured and expanded to include responses on participation in online learning communities and engaging in peer mentoring. An open response question (Q. 19) was introduced to allow respondents to identify strategies that they regarded as being the most effective means of supporting the professional development of newly-appointed school leaders. On a number of questions utilising a rating scale, the category 'uncertain' was move to the first position. A number of typographical errors were corrected and some technical errors relating to selecting certain responses were corrected.

---

[25] The questionnaire was prepared and administered using a professional subscription account at SurveyMonkey.com (http://www.surveymonkey.com).

Administering the Questionnaire

Following piloting of the questionnaire, email messages were sent to the research sample. Each email contained a hyperlink to the online questionnaire as well as an overview of the research. The introductory page of the questionnaire also provided respondents with a similar overview of the research objectives. The online questionnaire facility allows for the preparation of an address book incorporating the email addresses of the population. An email containing an invitation to complete the questionnaire, together with an embedded link to the online questionnaire, was sent to each of the LDS team. This researcher and the LDS coordinator for the virtual learning environment did not complete the questionnaire. Although the questionnaire was completed anonymously, the online facility did allow monitoring of those who had yet to complete the questionnaire. Two reminder emails were sent before the questionnaire was closed.

At the time of data gathering, there were 53 LDS team members. This number includes a national coordinator, twelve fulltime team members[26], and 40 associate (part-time) members. The research population was, therefore, 53: thirteen full-time members and 40 part-time members. Removing this researcher and the full-time team member involved in piloting the questionnaire from the population returned a research sample of 51.

Online Environment User Statistics

One element of the research is an examination of patterns of user activity within the online environment. The gathering of usable date from the system to undertake an analysis of patterns of user activity was problematic. For example, the system administrator was unable to produce a record showing the total number of times an individual user had accessed the system. Access details could only be compiled with respect to individual online communities. In addition, the system does not appear to incorporate a reliable mechanism for the generation of statistics within individual communities. Initial analyses on the statistics generated within the system confirmed that there were inconsistencies in the data. The following procedure was adopted to ensure the integrity of the base data:

---

[26] The number of full-time members of LDS has, for 2008, increased to 18.

- A manual process of identifying users as participants, administrators, or LDS team members was used. This type of data was not readily available from within the system for an online community.

- The generated data were extracted as text into a Microsoft® Excel spreadsheet. The extracted text contained trailing and leading spaces, tab marks and unidentified hidden characters. The data also included special characters where the system had difficulty in interpreting the apostrophe in user surnames. These characters were removed.

- Within the system, a user can be associated with one or more user groups. When generating user statistics within the system, duplication of users was a feature of the data generated. A script (macro) to identify duplicate data was used on each of the 32 online communities. Duplicate data were then removed manually.

- To help ensure consistency in data across different communities, each user's details were reduced to a single string.

- Within each online community, users were identified as either a participant or team member. Team members were identified as either a full-time or part-time (associate) member. They were also differentiated on the basis of sector, that is, either primary or post-primary. This was achieved by running scripts to compare users within the communities with a list of team members.

- Temporary accounts, test accounts, administrator accounts and this researcher's account were removed from the data.

All corrected data were transferred to a spreadsheet file to facilitate analysis. This file included all contributions to online discussion forums within the virtual learning environment.

Online Population

The potential population for engagement with LDS programmes is drawn from both primary and post-primary schools. For 2005/2006, the number of primary schools (including special schools) aided by the Department of Education & Science was 3,284. At post-

primary level (including vocational, community, comprehensive and secondary schools) the number of supported schools was 735[27]. Participation in the various programmes is by open invitation and application. The exception to this is the new Tóraíocht programme, participation in which is handled through the *Postgraduate Applications Centre* (PAC)[28] and involves a short-listing process. The Tóraíocht programme was not available at the time of this research. The LDS Middle Leadership programme continues to be made available but is, at present, limited to schools participating in the Forbairt programme. Eligibility to attend programmes such as Tánaiste and Misneach is implicit on appointment to the post of deputy principal or principal, respectively. No published figures on the number of participants involved in the programmes were available at the time of research. Overall, the number of school leaders who have participated in LDS programmes between 2002 and 2007 is reported as 5,000[29].

Programme participants typically engage with LDS programmes for a period of one- to two-years. Not all participants who have participated in LDS programmes are registered as users of the virtual learning environment. The first users of the system were entered in April 2006 with the first programme participants entered in May and June of that year. At the time of examination, the earliest established community was in place for 319 days. Also at this time, and allowing for the removal of test and administrator accounts, the number of individual users within the environment was estimated at 1322.

Compiling data

Access to the discussion forums was granted over a period of time. With the exception of one forum, from which data was collected on 30/06/2007, the data was collated between 12/04/2007 and 19/06/2007. Individual discussion threads were copied to a Microsoft® Excel spreadsheet and then converted to plain text. Some details relating to the forum, such as title, community name, and creation date were transcribed. The data comprising a single discussion forum included:

- Title/topic of the discussion forum;

---

[27] Source: Department of Education & Science Statistics Website (http://www.education.ie/servlet/blobservlet/Key_stats_leaflet_05_06.pdf)
[28] See: http://www.pac.ie/
[29] Source: http://www.lds21.ie/

- Forum type;
- Date on which forum opened;
- Date of last contribution to forum at data collection;
- Online community within which the forum is contained;
- Contributor comment, or post;
- Contributor name.

The virtual learning environment platform used for LDS *LIVE* does not include descriptions of group membership when data relating to users within online communities is exported. A number of scripts (macros) were used to process the data and to identify different categories of users within the virtual learning environment:

- With reference to a list of LDS team members, the forum contributors were identified as LDS fulltime team members, part-time (associate) LDS team members, or programme participants.
- Each discussion forum was given an identifying three-letter code.
- Each contributor name was converted into a code. This code included the forum code.
- The total number of words contained in forum contributions was calculated.
- The average number of words per post was calculated.
- The number of posts by LDS team members and by programme participants was calculated.

Additional columns were added to the spreadsheet as needed to allow for coding. These spreadsheets also provided that data for the preparation of coding sheets which were used by raters for the coding of online discussions.

Online Forum Content Analysis

The field of content analysis with respect to the development of critical thinking within online forums is an emerging one. Studies relating to the use of content analysis of online forums to support professional development for school leadership are limited. However, a number of models have been developed to describe online interactions and provide a means to assess the extent of in-depth learning. A number of approaches were considered and examined, including Henri's (1992) *Cognitive Skills* model and Newman et al.'s *Critical Thinking* model (1997; Newman, Webb, & Cochrane, 1996). Two models were considered appropriate for the present study: the *Interaction Analysis Model* and the *Community of Enquiry Model*.

Gunawardena et al.'s Interaction Analysis Model (IAM)

The Interaction Analysis Model (Gunawardena et al., 1997) uses five phases that learners engaged in an online discussion will pass through if meaningful knowledge is being constructed (Table 4 below). The interaction analysis model is grounded on theories of distributed cognition and the social construction of knowledge within communities of practice. Analysing transcripts from online discussion, the authors propose five phases that are indicative of knowledge construction (Gunawardena et al., 1997: 413-415):

- Phase I *Sharing and comparing of information*: statement or observation or opinion; statement of agreement between participants.
- Phase II *Discovery and exploration of dissonance or inconsistency among participants*: identifying areas of disagreement; asking and answering questions to clarify disagreement.
- Phase III *Negotiation of meaning or knowledge co-construction*: negotiating meaning of terms and negotiation of the relative weight to be used for various arguments.
- Phase IV *Testing and modification*: testing the proposed new knowledge against existing cognitive schema, personal experience or other sources.

- Phase V *Phrasing of agreement and application of newly constructed meaning*: summarising agreement and metacognitive statements that show new knowledge construction.

The model envisages participants in an online discussion to move through identifiable stages. These stages or 'phases' can be placed on a continuum from the sharing and comparing of information, through the identification of cognitive dissonance, and towards the construction of knowledge. Individual contributions were used as the unit of analysis. Where a message indicated the presence of two distinct knowledge phases or contradictory statements, the message was coded to reflect the higher level knowledge phase indicated. The phases, together with examples of participant behaviours, are outlined in Table 4 Below. Note that the Roman numerals used in the original paper are replaced for clarity in the coding.

	Phase 1: Sharing/comparing of information	
	Operations which occur at this stage include:	
A	A statement of observation of opinion	P1A
B	A statement of agreement from one or more other participants	P1B
C	Corroborating examples provided by one or more participants	P1C
D	Asking and answering questions to clarify details of statements	P1D
E	Definition, description, or identification of a problem	P1E
	Phase 2: The discovery and exploration of dissonance or inconsistencies among ideas, concepts or statements	
	Operations which occur at this stage include:	
A	Identifying and stating areas of disagreement	P2A
B	Asking and answering questions to clarify the source and extent of disagreement	P2B
C	Restating the participant's position, and possibly advancing arguments or considerations in its support by references to the participant's experience, literature, formal data collected, or proposal of relevant metaphor or analogy to illustrate point of view	P2C
	Phase 3: Negotiation of meaning/co-construction of knowledge	
	Operations which occur at this stage include:	
A	Negotiation or clarification of the meaning of terms	P3A
B	Negotiation of the relative weight to be assigned to types of argument	P3B
C	Identification of areas of agreement or overlap among conflicting concepts	P3C
D	Proposal and negotiation of new statements embodying compromise, co-construction	P3D
E	Proposal of integrating or accommodating metaphors or analogies	P3E
	Phase 4: Testing and modification of proposed synthesis or co-construction	
	Operations which occur at this stage include:	
A	Testing the proposed synthesis against 'receive fact' as shared by the participants and/or their culture	P4A
B	Testing against existing cognitive schema	P4B
C	Testing against personal experience	P4C
D	Testing against formal data collected	P4D
E	Testing against contradictory testimony in the literature	P4E
	Phase 5: Agreement statement(s)/application of newly-constructed meaning	
	Operations which occur at this stage include:	
A	Summarisation of agreement(s)	P5A
B	Applications of new knowledge	P5B
C	Metacognitive statements by the participants illustrating their understanding that their knowledge or ways of thinking (cognitive schema) have changed as a result of the [online] interaction	P5C

Table 4: Interaction analysis model for examining social construction of knowledge in computer conferencing

Garrison et al.'s 'Community of Enquiry' Model

Garrison et al. (1999) developed the concept of a community of enquiry that maps educational presence in the context of online environments. Three key elements define this community: social presence, cognitive presence, and teaching presence. The model draws on research conducted in higher educational settings. The authors conclude that the element that is central to success in higher education is cognitive presence. This is described as the extent to which participants in a community of enquiry can construct meaning through sustained communication. Cognitive presence is a key element of critical thinking (Garrison, R. D. et al., 1999: 89). The second element of the community of enquiry models is social presence.

This is described as the capacity of individual participants to define and project their personal characteristics within the community. Social presence is important as a support for cognitive presence, facilitating the critical thinking process of the learning community (Garrison, R. D. et al., 1999: 89). The third part of the model, teaching presence, embodies two functions. First is the design of the educational experience, including the selection and presentation of programme material. The second general function is that of facilitation. Although facilitation may initially be the remit of the course tutor, it may be shared among participants. The primary elements, categories, and indicators associated with the model are summarised in Table 5 below.

The category of 'teaching presence' is clearly associated with the context within which the model was developed, that is, formal higher education. However, the concept of teaching presence is not readily applicable to a professional development scenario that seeks to operate on cooperative and facilitative principles. Nevertheless, within the online discussion forums there will be individuals who will, both formally and informally, take a lead role in developing and progressing discussions. Clear examples of this would be in identifying a topic for discussion ('triggering') and prompting individuals to engage with a particular line of discussion or reasoning. These activities are adequately accounted for under the categories of social presence and cognitive presence and are considered appropriate to a professional development scenario that is predicated on the principles of peer support.

Elements	**Categories**	**Indicators (examples)**
Cognitive Presence	Triggering Event Exploration Integration Resolution	Sense of puzzlement Information exchange Connecting ideas Apply new ideas
Social Presence	Emotional expression Open communication	Risk-free expression Encouraging collaboration
Teaching Presence	Instructional Management Building Understanding Direct Instruction	Defining and initiating discussion topics Sharing personal meaning Focussing discussion

Table 5: Critical Enquiry in a Text-Based Environment: Community of Enquiry Coding Template (Garrison, R. D. et al., 1999: 89)

The use of text-based communication is considered an important support for critical thinking. This is related to time for reflection that is incorporated in text-based communication (Garrison, R. D. et al., 1999: 90). However,

> as essential as cognitive presence is to an educational transaction, individuals must be comfortable in relating to each other. Cognitive presence by itself is not sufficient to sustain a critical community of learners. Such an educational community is nurtured within the broader social-emotional environment of the communicative transaction
>
> (Garrison, R. D. et al., 1999: 94).

For Garrison et al., cognitive presence is closely associated with the concept of critical thinking (Garrison, D. R. & Anderson, 2003). The critical thinking model proposed draws on Dewey's (1910) reflective thinking model. Critical thinking is central to the process of knowledge authentication as well as to the process of knowledge creation. The model comprises five phases:

1. Problem identification

   A prompt or triggering event that arouses interest in a subject or topic.

2. Problem definition:

   The establishing of characteristics of the problem, as well as identifying boundaries. Problem definition may also entail the recounting of personal experiences.

3. Problem exploration:

   Examining the core issues defining the problem, exploring new ideas, developing solutions and demonstrating deep understanding of the situation.

4. Problem applicability:

   Characterised by deductive reasoning, applicability requires critical assessment and judgement of proposed solutions.

5. Problem integration:

   Integration is characterised by action, such as testing new knowledge and understanding and applying ideas.

Both the Interaction Analysis Model and the Community of Enquiry Model were applied to the data. An initial analysis using the Interaction Analysis Model was conducted to indicate the nature of knowledge construction within the online environment. This initial examination also allowed for an assessment of the appropriateness of the Interaction Analysis Model for a more in-depth analysis. On foot on this initial examination, the Community of Enquiry Model for selected. This second analysis used three raters and the coding was examined to establish the degree of inter-rater agreement.

Content Analysis Principles

De Wever (2006) and Krippendorff (2004), among others, identify a number of factors to be addressed with respect to content analysis. These considerations are necessary to ensure that the data support findings that exhibit systematic coherence, external validity, and can be applied to different settings.

Units of Analysis

A decision to be made by researchers undertaking content analysis is to define what is to constitute a single unit of analysis. There are a number of options available. For example, each discrete sentence in a contribution may be considered the basic unit. An alternative is to identify the core theme or idea within a posting and to identify this as the unit of analysis. Henri (1992) referred to the unifying theme in a massage as the 'unit of meaning.' A third option, and one adopted by Gunawardena et al. (1997), is to examine the complete message or posting. Rourke et al. (2001) identify five units that are used in content analysis research:

- **Sentence Unit**: The use of syntactical criteria, that is, word, proposition, or sentence, may give rise to a very large number of cases. The use of the sentence unit also requires the coder to first interpret the meaning of messages posted by participants and to them transform them into sentence.

- **Paragraph Unit**: Increasing the size of the syntactical unit to include the paragraph has the immediate benefit of reducing the number of cases to be examined. Where a single paragraph contains two ideas, they may be treated a two discrete units.

- **Message Unit**: Again, there is a benefit in reducing the number of cases to an appropriate size. The use of the message unit also increases agreement among multiple raters on the total number of cases arising.

- **Thematic Unit**: The identification of a thought unit or idea unit may be extracted from a segment of content. The identification of a thematic unit may give rise to increasingly subjective ratings and, consequently, low levels of reliability.

- **Illocutionary Unit**: Here, the unit of analysis is defined by an identified change in purpose within the contribution. The identification of the unit would draw on factors such as the linguistic properties of the message and the target audience for the message. The identification of units of analysis here is again complex and challenging.

Krippendorff makes reference to the problematic nature of identifying appropriate units of analysis. While the analysis of units such as words, sentences, paragraphs, lines of text, or timed periods of conversation give rise to significant methodological challenges, such analyses are important for research reliability (Krippendorff, 2004: 788-789). Therefore, the key challenges for content analysis are the development of means to analyse textual units of variable sizes that are informative to the research question under consideration. While the mathematical complexity of such an undertaking is recognised, it does not justify the retaining of a rigid delineation between quantitative and qualitative approaches to textual content analysis (pp. 788-789). In addition, the use of computer software to analyse text does give rise to efficiencies in the way that analysts categorise units of text. However, the process still remains the coding of a single analyst and does not allow for an assessment of the reliability of the initial coding (Krippendorff, 2004: 790).

Content Analysis Coding

As with the Interaction Analysis Model, the Community of Enquiry Model uses exemplars of participant behaviours and contributions to gauge engagement. For the analysis, a schedule of codes was prepared. Garrison et al. (2003; Garrison, R. D. et al., 1999) propose a number of categories to assist the identification of social presence and cognitive presence in online discussions. In Table 6 below, codes and sample indicators relating to social presence are detailed. These indicators, as well as the indicators of cognitive presence detailed in Table 7, were used by the three raters to code forum messages.

As with the Interaction Analysis Model, the unit of analysis used was the complete posting. Where a contribution included two categories of presence, the message was coded with respect to the higher-order social presence or cognitive presence category indicated.

Social Presence		
Code	*Category*	*Indicators*
AF	Affective	Affective responses in a text-based forum include expressions of emotions (through, for example, the use of repetitious punctuation and capitalisation), evidence of humour, and the self disclosure of life outside the learning community, including expressions of vulnerability
OP	Open Communication	Characterised by contributions that are reciprocal and respectful. Serves to promote a climate of trust and acceptance. It also constitutes constructive responses to the contributions of others within the forum. Examples of open responses include: continuing a thread; quoting from others' messages; referring explicitly to others' messages; asking questions; complementing; expressing appreciation; and expressing agreement.
CO	Group Cohesion	Characterised by the contributor addressing or referring to others by name, referring to the group using inclusive pronouns, and through the use of phatics.

Table 6: Codes and samples indicators for analysis of social presence

Evidence of social presence within the online communities indicates the capacity of participants to establish themselves socially within the community. The ability of a participant to establish relationships and to engage in critical dialogue is underpinned by social presence:

> Social presence marks a qualitative difference between a collaborative community of enquiry and a simple process of downloading information. The difference is the quality of the message; in a true community of enquiry, the tone of the messages is questioning but engaging, expressive but responsive, sceptical but respectful, and challenging but supportive. In such a collaborative community of learners, social presence is enhanced. When social presence is combined with appropriate teaching presence, the result can be a high level of cognitive presence leading to fruitful critical inquiry.
>
> (Garrison, R. D. et al., 1999: 96)

While establishing social presence in a text-based collaborative environment is challenging, the process of committing a reflection to a medium can support cognitive processes (Barbour & Rich, 2007; Moon, 1999).

The second element explore is that of cognitive presence. Codes and indicators used in the analysis are detailed in Table 7 below.

Cognitive Presence		
Code	*Category*	*Indicators*
SE	Setting	Where an intention to bring topics forward is articulated, but the issue itself is not stated. Can be an expression of intent to identify topics for discussion, or may be a general request for contributors to identify topics that they would like to discuss. Typically adopted by forum moderators to seek comments from participants.
TR	Triggering Event	Triggering refers to the identification and articulation of a problem. The conceptualisation of a problem or issue is inductive and evocative, supporting the learning process and furthering discussion. The key indicator is the recognition of a problem and is characterised by 'puzzlement'
EX	Exploration	The second phase on the cognitive presence spectrum is 'exploration.' Exploration is characterised by the quest for relevant information and ideas. It is a divergent and inquisitive phase. Key processes include brainstorming ideas, offering supporting or contradictory ideas, making 'intuitive leaps' and soliciting narratives on relevant experiences.
IN	Integration	The third phase, integration, involves the construction of suitable solutions or explanations of the concepts under consideration. The learning processes here include: building on other ideas, integrating information, developing a rational or justification, of the articulation of a solution.
RE	Resolution	The fourth phase is 'resolution.' The resolution phase is characterised by the evidence of the critical assessment of the proposed solution. The testing of the solution is, typically, deductive, perhaps through the use of a thought experiment. The testing would also necessitate other participants critiquing the suggested solution. Other modes of solution testing might see a direct application of the solution, or the assessment of the solution within the context of an action research project.
PO	Interposition	Where a contributor makes a comment or observation that does not bear directly on the topic at hand, nor leads to a new thread of discussion. Examples include a salutation or comic interjection in the midst of a discussion.

Table 7: Codes and sample indicators for analysis of cognitive presence

In addition to the original categories of triggering event, exploration, integration, and resolution, two additional categories were introduced. Based on an initial analysis of the forum discussion threads, a number of contributions were not adequately catered for by the categories defined by Garrison et al. The initial comments in some of the forums – comments that would typically be classified as the triggering event for the discussion – did not address any identifiable topic. They may, for example, simply ask that participants comment on any topic of their choice. Contributions of this nature were coded as 'setting'. Subsequently, where a contributor established a theme or topic for further discussion within the community, this post was considered to be the key triggering event for the forum. In addition, during the conduct of an online discussion, a contributor may make a comment or observation that does not bear directly on the topic being considered. Messages of this type were coded as 'interposition'. An important characteristic of this category of contribution is that the post does not lead to a new thread of discussion. Examples include a salutation or a comic interjection in the midst of a discussion.

Inter-Rater Agreement

To increase the reliability of the findings, three coders – including this researcher – analysed the data. Each coder used the codes and indicators for social presence and cognitive presence outlined in Table 6 and Table 7 above. At an initial meeting, the Community of Enquiry Model was introduced and the categories and exemplars to be used in the analysis were discussed. Each coder conducted their analysis independently, using a printout of the discussion forums. The printouts included the full text of the discussion and each contributor was represented by a code. Names and other identifiable references within the discussion text were deleted. Each contribution to a discussion forum was rated for social presence and cognitive presence.

At a second meeting of coders, discrepancies were discussed. The two categories that proved problematic for coding – triggering event and resolution within the cognitive presence theme – were reviewed. Each coder reviewed their respective analysis and the three analyses were transferred to a spreadsheet. The inter-rater agreement for three coders was calculated with respect to social presence and cognitive presence. Chance-corrected measures of agreement for two raters are usually computed in terms of kappa. See Equation 1 below.

$$K = \frac{p_o - p_e}{1 - p_e}$$

Equation 1: kappa equation for two raters

Where more than two raters are used to assess agreement, Fleiss' extension of kappa, called the generalized kappa, is appropriate (King, 2004). The generalised kappa is defined as:

$$K = 1 - \frac{nm^2 - \sum_{i=1}^{n} \sum_{j=1}^{k} x_{ij}^2}{nm(m-1)\sum_{j=1}^{k} \overline{p}_j \overline{q}_j}$$

Equation 2: Fleiss' generalised kappa

Where:

k = the number of categories,

n = the number of subjects rated,

m = the number of raters,

$\overline{p}_j$ = the mean proportion for category j, and

$\overline{q}_j$ = 1 – the mean proportion for category j

The results of calculations on inter-rater agreement are presented in Table 8 below.

	Social Presence	Cognitive Presence
p_o	0.80	0.83
p_e	0.47	0.56
K	0.63	0.60

Table 8: Inter-rater agreement for social presence and cognitive presence coding

The kappa coefficient runs from -1.0 to 1.0, with -1.0 indicating perfect disagreement, 1.0 indicating perfect agreement, and 0.0 indicating rating agreement equivalent to change. There is no agreement on what constitutes a 'good' or appropriate coefficient. As reported by Sim & Wright (2005), and others, the interpretation of coefficients proposed by Landis and Koch (1977) are commonly used. The Landis/Koch scale suggests proposed the following as standards for strength of agreement for the kappa coefficient: 0 = poor, .01–.20 = slight, .21–.40 = fair, .41–.60 = moderate, .61–.80 = substantial and .81–1 = almost perfect. Other observers (Randolph, 2008) suggest that a coefficient of 0.7 is a 'good rule of thumb.' Yet others suggest that tables categorising ranges of kappa as 'good,' 'fair,' 'poor', and so forth are inappropriate and should not be used (Uebersax, 2002). However, the coefficients determined with respect to the present study are considered acceptable and contribute to the reliability of the study.

4.4 Discussion

The identification of a research approach encompasses two critical decisions. Firstly, the approach adopted will reflect epistemological and ontological perspectives influencing the stance of the researcher. These perspectives in turn influence the methods to be adopted to

ensure validity, relevance and reliability of the research activity. The present research is located within the action research tradition. In particular, participatory research in the context of a case study is the guiding research perspective. The case study at hand – the development of a virtual learning environment to support continuing professional learning for school leaders – encompasses a narrative on efforts to implement an educational innovation. In turn, analyses of this narrative highlight events and phenomena within their natural context. Arising from these analyses, the narrative supports the identification of cautious generalisations that will support future theory-building and theory-testing. These generalisations will touch upon issues such as the nature of professional learning for school leadership, the challenges of implementing continuing professional learning supports that include a significant ICT element, and the development of policies that inform assessment of the effectiveness of current initiatives and chart the direction of future initiatives

The use of a mixed-method approach, which uses both quantitative and qualitative methods in the context of action research case study, increases research reliability. While the use of multiple research methods does not in itself constitute triangulation, there will be complementarities and areas of convergence and reinforcement.

As well as the anticipated technical and interpretative challenges inherent in the research, the study also gives rise to additional considerations. As a government funded programme, there are restrictions of the reporting of data relating to the implementation of the initiative. The conduct of the research and the publication of findings are subject to a memorandum of understanding (See Appendix 1).

The analysis of quantitative data (such as frequency and patterns of participant use of the system) and qualitative data (the content analysis of the online discussion forums) provide a rich and detailed frame of reference within which to explore the development of a virtual learning environment in support of school leadership development. The use of established content analysis models, together with inter-rater agreement analysis, contributes to the overall reliability of the research. The issues arising, when examined within a theoretical context encompassing school leadership and online learning environments, will support the development of a theoretical framework to guide the use of online learning environments for school leadership development.

5 LDS *LIVE*: Implementing a Virtual Learning Environment[30]

Establishing a theoretical context for exploring VLEs for school leadership development is further supported by way of reference to a case study. In Ireland, the establishment of the *Leadership Development for Schools* (LDS) initiative in 2002 is a significant development in supporting school leadership. The initiative emerged from a period of considerable policy review and development in Irish education. Concerns relating to the quality of educational leadership, together with the need to develop measures to support school leaders, were recurring themes. This regulatory and policy context is discussed in Chapter 2. Prior to the establishment of LDS, professional development for school leaders was largely ad hoc. Organisations such as teacher unions, management bodies and Vocational Educational Committees (regional education authorities) designed and developed programmes catering for their respective practitioners. As a cross-sectoral initiative, the establishment of *Leadership Development for Schools* represented a new departure for the Department of Education & Science.

LDS initially consisted of four principals seconded from their schools and based in Clare Education Centre[31]. LDS personal are appointed on a full-time or part-time basis. In general, both full-time and part-time members are practicing principals and deputy principals. Full-time members are seconded from their respective schools on a year-to-year basis. These secondments are approved by the Board of Management of the school. The team is responsible for the design and delivery of the initiative's various programmes. Full-time members are, in the main, principals and deputy principals of primary and post-primary

[30] Observations relating to the case study are based on the researcher's action research diary and with reference to programme materials, minutes of planning and review meetings, and literature prepared by members of the LDS team. These programme materials include prospectuses, module descriptions, and seminar notes.

[31] See: http://www.clare-education-centre.ie

schools, seconded to LDS . At the time of data gathering, there were thirteen full-time members (including a national coordinator) and 40 part-time members. This has recently been increased to eighteen full-time members and 60 'Associate Members' who operate on a part-time basis. Members of the LDS team may, and in some instances, have been, recalled by their respective Boards of Management to return to full-time duties in their schools.

The initiative's remit includes programmes for school principals, deputy principals and others involved in school management in first and second level schools. LDS's main activities are:

- Supporting and empowering first-time principals through the delivery of induction programmes for newly appointed school leaders;
- Planning and developing professional and personal development opportunities for established school principals and deputy principals;
- Promoting and encouraging all forms of leadership within schools;
- Consulting with key partners on leadership issues;
- Engaging and working with outside expertise in the development and implementation of LDS programmes;
- Developing international links;
- Using ICT as a support tool in LDS programmes;
- Researching leadership issues at home and abroad.

At an early stage of the initiative, a number of number of publications were prepared (Leadership Development for Schools, 2002, 2003a, 2003b). These documents outline the rational and objectives for CPD for school leadership. One publication, *Misneach – A Programme of Induction for First Time Principals*, provides the framework for the first programme developed within the LDS programme. The *Misneach* (Gaelic translation of 'courage') programme was established in 2003 and is offered to newly-appointed principals at primary and post-primary level. The programme runs for two years during which

participants attend four or five residential sessions. Modules may be modified and redesigned over time, but some of the core elements of the programme are:

- Unpacking Leadership
- Leading People
- Leading Learning
- Leading the Organisation
- Relationship Building
- Personal Leadership Skills
- Personal Effectiveness

Since its inception, LDS has extended its range of programmes as well as increasing the number of personnel. From an early stage, the concept of transformational leadership is identified as a key consideration for the programmes developed as part of the LDS initiative (Leadership Development for Schools, 2002). Although transformational leadership need not be regarded as the pinnacle of approaches to leadership (c.f. Morrison, K., 2002), the model does represent an important constituent of leadership models such as constructivist leadership and distributed leadership.

5.1 LDS Professional Development Programmes

Programmes are normally developed and delivered separately for primary and for post-primary school leaders. Participation in the various programmes is voluntary and attendance is not a prerequisite for appointment to a school leadership position. The main programmes, which are usually referred to by their Gaelic titles, are described briefly below[32]:

---

[32] The most recent addition to the LDS prospectus is the Tóraíocht (Pursuit) programme. Developed in partnership with the National University of Ireland, Maynooth, the programme is designed to cater for the needs of experienced teachers who may be considering applying for leadership positions within schools. As a joint programme leading to formal university accreditation, it is a significant development in CPD for school leadership. The programme was not established at the time of data collection for the present research.

Misneach (Courage)

The Misneach programme caters for newly-appointed principals of primary and post – primary schools. The programme runs over two school years. This was the first programme developed by LDS.

Forbairt (Development)

The Forbairt programme focuses on the professional development needs of established school principals and deputy principals. The programme was introduced in October 2005 and consists of three two-day residential modules and two school-based modules.

Tánaiste (Deputy Leader)

The Tánaiste programme seeks to address the professional development needs of newly-appointed Deputy Principals in primary and post-primary schools.

Spreagadh (Encouragement)

The Spreagadh programme is offered in collaboration with the Irish Primary Principals' Network (IPPN) and with local Education Centres. The programme seeks to support primary school principals to use reflective practice and professional networking with a view to addressing issues impacting on teaching and learning in their schools.

Cothú (Nourishment)

Designed to address the professional development needs of school leaders in special schools, the Cothú programme is presented over two, two-day residential courses. The programme addresses, for example, legislative issues relating to special schools, participating in Case Conferences and other team meetings, motivating and leading people, and personal effectiveness.

Middle Leadership

In conjunction with the School Development Planning Initiative (SDPI), LDS continues to pilot a programme to cater for the professional development needs of Middle Leaders.

With respect to each of these programmes, there is in general a common approach to development. Some of the key features of the various programmes are outlined briefly:

- Each programme includes a number of characteristic modules or activities. These modules are developed by the LDS team members and typically reflect what are considered the pressing issues for the target group of participants. Modules may be designed and presented following observations or requests from programme participants. Modules are, in general, categorised by theme. For example, for the *Misneach* programme, modules are categorised under the headings of: unpacking leadership; leading learning; leading people; leading the organisation; relationship building; and enhancing personal leadership skills.

- Typically, participants are principals or deputy principals in primary or post-primary schools. They are clustered on the basis of the year they engage with their respective programmes. For example, the seventh cohort engaged with the Misneach post-primary programme would be coded (MIC7/08-10) and referred to as 'Misneach 7' or 'Misneach 2008/2010.'

- Programmes such as Tánaiste, Forbairt, and Misneach include 'residential' modules of one- to two-day's duration. These modules facilitate sustained tuition and discussion, as well as work-groups and workshops. For the Forbairt programme, there is at least one planned 'action learning network' or 'cluster' meeting which takes place between the residential sessions. Particularly within the Misneach programme, there are continuing efforts to put in place a comprehensive system of mentoring.

A key aspect of the programmes – and one that is emphasised to participants – is that they are designed and delivered by experienced practitioners. The programmes are intended to be facilitative in nature. That is, the relationship between programme designers/deliverers and participants is conceived of as peer-to-peer rather than tutor-to-learner.

A notable use of the learning community concept is the development of action learning communities. These normally operate within the confines of the Forbairt programme, running for one year with each cohort. Although there is some anecdotal evidence that a small number of networks may continue to operate after the official end of the Forbairt initiative, this does not appear to be a widespread phenomenon.

5.2 Implementing a Virtual Learning Environment

The LDS publication, *A Framework for the Professional Development of Irish School Leaders*, outlines a vision of the use of ICT to support the professional development process. The use of ICT is predicated on the idea that an 'on-line interactive learning community will allow school leaders to contact each other, debate educational issues and exchange ideas about practice within both "closed" and "open" communities' (Leadership Development for Schools, 2003a: 18-19). Benefits accruing from the establishment of a virtual learning environment include (Leadership Development for Schools, 2003a: 19-20):

- Raising the ICT expertise of school leaders;
- Improving the management of schools through direct access to peer experience and expertise;
- Impacting positively on leadership in isolated schools through easy access to leading educational thinkers;
- Reducing isolation felt by many school leaders;
- Meeting increased demands from principals and teachers for access to discussion forums (Leadership Development for Schools, 2003a: 19).

Furthermore, the document suggests some factors that will influence the successful establishment of a VLE. These are:

- Its relevance and usefulness to school leaders;
- The frequency and quality of the communication engaged in through on-line communities;
- The volume of users engaging in on-line learning and support;
- Its contribution to the quality of LDS programmes;
- Its contribution to further debate and enquiry on school leadership issues in Irish education.

As detailed in the Misneach programme outline document, the development of an ICT component to support this and other future programmes is emphasised. It is envisaged that ICT will: support the residential modules; provide access to course material and relevant material; develop on-line communities of school leaders; facilitate knowledge and information exchange; link school leaders to global sources of learning; provide a research tool for further LDS programmes (Leadership Development for Schools, 2003b: 20).

From the outset, LDS envisaged that programmes of school leadership development would incorporate online elements. This objective reflected the growing international consensus that the development of VLEs had the potential to enhance CPD programme effectiveness. A key influence in the establishment of a virtual learning environment for LDS was the development of an online learning facility by the *National College for School Leadership* (NCSL), in Nottingham, England[33]. In 2002, representatives from LDS visited NCSL to explore the *Talking Heads* initiative. This initiative – an online learning community of school principals – was developed by Ultralab (based at Anglia Polytechnic University, now Anglia Ruskin University) using think.com software[34] developed by the Oracle[35] Education Foundation. *Talking Heads* was to form a key component of the NCSL's 'virtual college' (Russell & Thompson, 2002).

Given the likely costs involved in the development of a VLE, the Department of Education & Science (DES) decided that a tender process was appropriate. Consequently, LDS commissioned a report to inform this process. This researcher was invited to prepare the report for consideration by LDS. The report (O'Toole, 2004) includes an overview of VLE technologies. Furthermore, the report explores the importance of online mentoring or facilitation. Among the main recommendations contained in the report are:

- Establish a Project Group to oversee the development of the VLE to allow for decision-making with regard to budgeting and staff allocation. The Project Group will appoint teams to address key elements of the project such as: design, procurement, implementation, support and review.

---

[33] The college's website can be accessed at: http://www.ncsl.org.uk/
[34] See: http://www.think.com/en/
[35] See: http://www.oracle.com

- Define the learning activities with which school leaders on LDS programmes will be engaged and identify configurations of technology, pedagogy and support that will ensure that these activities facilitate the attainment of CPD objectives

- Review the organisational context to assess the capacity of LDS to effect the development of the VLE. This review should identify human resource capacity necessary to successfully complete the project.

- The development of requisite skills within the organisation should constitute a significant part of the design brief. The longer-term goal should be to enable LDS to operate the VLE as an integral part of their own programmes..

- The Project Group should move to fill the positions of learning environment administrator and facilitator at an early stage.

- A design specification detailing learning objectives, pedagogies and supporting technologies should be provided to potential service providers as part of the tender process. The design specification should emphasise the development of a learner-centred, task-oriented virtual environment.

- A review of the key LDS programme, Misneach, should be undertaken to establish which elements of the programme are most suited to incorporation in the VLE. The role of programme tutors and mentors with regard to content development and management should be clarified.

The report concludes that a virtual learning environment is regarded as an important support to CPD. The establishment of a VLE will have a significant impact on an organisation's resources. Therefore, it is appropriate that the implementation is guided by a process that prioritises learning outcomes and which also enhances the skills-base of the Leadership Development for Schools organisation itself. The report was completed in February 2004.

Developing the VLE Design Model

During 2005, this researcher worked with LDS to explore suitable models of virtual learning environments. The starting point for this examination was the general objectives

outlined in the LDS document *Misneach: A Programme for the Professional Development of Irish School Leaders* (Leadership Development for Schools, 2003b). Briefly, these are:

- To support residential modules, mentoring, and internship components;
- To provide access to course materials and relevant information;
- To develop online communities of school leaders;
- To facilitate the exchange of knowledge and information;
- To link leaders to national and global sources of support and learning;
- To serve as a research tool for further programmes and LDS-related research.

Also, as an integral part of the Misneach programme, ICT will facilitate:

- Easy access to material and information, regardless of location;
- Engagement with course materials;
- Speed and flexibility of communication;
- A time and cost efficient form of professional development for the participant;

These requirements were expanded and amplified through the development of an outline VLE design specification. This specification was included in the documentation made available to parties tendering for supply of the VLE software (National Centre for Technology in Education, 2005). In an appendix to the tender documentation, the objectives of the proposed LDS online environment are identified as:

- To enhance the work of LDS;
- To provide continuity between face-to-face sessions;
- To provide access to reference and learning material;
- To support professional networking;

- To support considered or reflective discussion;
- To promote sustainable leadership;

More specifically, the VLE will play an important role in:

- Supporting residential modules, mentoring and portfolio building;
- Affording ready access to course materials and information;
- Developing a sense of community among school leaders;
- Linking school leaders to sources of support;
- Allowing the LDS team and coordinators communicate with and conduct research with the community of users;
- Publishing and recording the work of course participants;
- Ameliorating the isolation of school leaders;
- Affording leaders access to open and closed areas to join in the wider educational debate while simultaneously being afforded the protected dissonance of more intimate groups;
- Engaging with other stakeholder groups who support school leaders;
- Providing support and development opportunities for school leaders who have completed LDS programmes;
- Provision of professional development at a time and location which is convenient for school leaders;
- Supporting discussion and reflective practice;
- Promoting the development of professional portfolios;
- Supporting the establishment of learning networks;
- Providing access to resources and learning materials;

- Enhancing communication between programme participants and mentors.

As evidenced by these objectives, the VLE is intended to impact on the most challenging aspects of school leadership development. Chief among these is the establishment of learning networks, developing a sense of community between school leaders, supporting reflective practice, facilitating mentoring, and promoting the development of professional portfolios. As with other examples of documentation outlining approaches to leadership development, a number of key approaches are identified. However, the specific methodologies or approaches that will lead to, for example, the establishment of professional learning communities are not unpacked. Consequently, these documents fail to offer meaningful ways in which the laudable objectives for the VLE can be achieved. References to concepts such as learning communities, reflective practice, and professional portfolios fail to convey the complexity of professional learning implicit in the approaches. Each of these concepts, as well as other themes referred to in the documentation, are open to multiple interpretations. The existence of different or conflicting interpretations of these CPD approaches does not preclude their use. It does, however, require that the theories of learning underpinning these concepts, together with the identification of appropriate actions that will support professional learning, are made explicit.

Proposed Model: An Electronic Portfolio Environment

During the period when the VLE specification was being prepared and the procurement process was in train, this researcher engaged with LDS team members to explore design and implementation issues. This researcher proposed a conceptual model which was an extension of the professional electronic portfolio (e-portfolio) framework. The model was referred to as an electronic portfolio environment. The model had a number of constituent elements – most notably the concept of differentiated learning spaces – and is represented diagrammatically in Figure 8 below. A defining characteristic of the model is that the electronic portfolios of individual practitioners would be embedded within a VLE. This configuration allowed for the design of portfolios which included confined elements such as a private learning (reflective) space, as well as allowing from the development of shared or merged boundaries. These shared portfolio boundaries support elements such as moderated learning spaces, shared learning spaces, and community learning spaces.

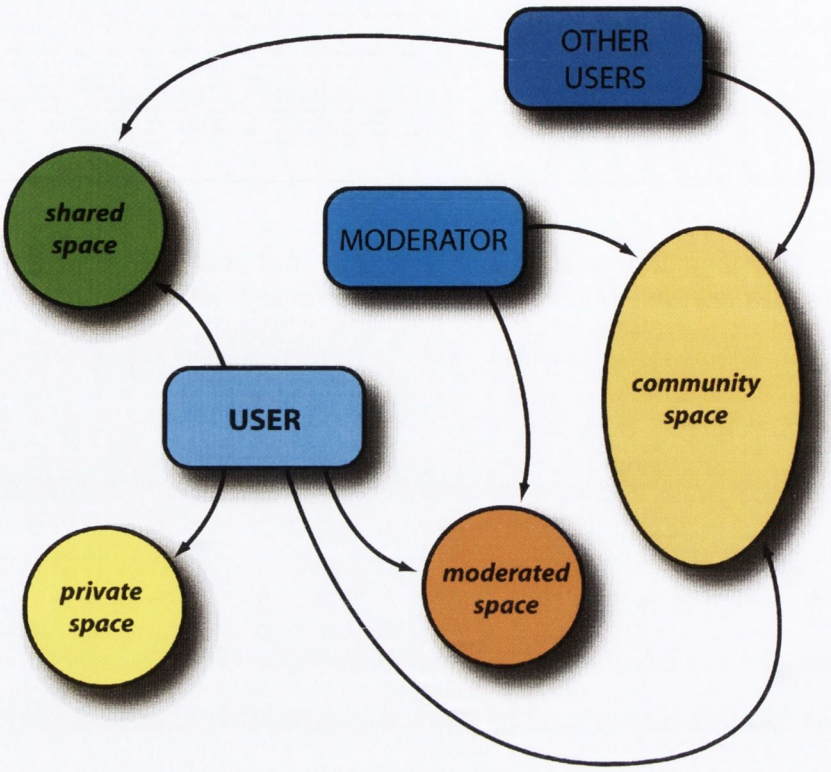

Figure 8: Conceptual Model for an *Electronic Portfolio Environment*

The electronic portfolio environment model is founded on the centrality of reflective practice to continuing professional development. The professional – or perhaps, leadership – portfolio can be developed so as to occupy the focal point of an online learning environment. The electronic portfolio, designed to support critical self-reflection, is placed at the organisational centre of the virtual learning environment. In this scenario, the user would not, in the first instance login to an online community. Rather, they would access a personal website or space configured to support reflective practice. The user can then create shared spaces if they wish to share some elements of their portfolio with peers, colleagues, or mentors. From time to time, the user will also have access to the shared spaces of other users.

Exploring a Prototype Virtual Learning Environment

Although there was an outline approach evident in a number of LDS documents, no formal project management framework for the establishment of the VLE was developed. Over the period from approximately December 2004 to October 2005, a number of meetings, some of which included this researcher, were held to formulate a suitable model for the VLE. A number of recurring concerns were in evidence during this period:

- LDS team members are uncertain about the precise role that ICT can play in the development and delivery of the Misneach programme and other LDS initiatives.

- Three full-time members, while working closely with the full-time LDS team, hold primary responsibility for the success of the initiative.

- There is a general sense among the LDS team that they are not well-placed with respect to their own ICT-competency levels to support or guide school leaders via the online environment.

- There are some divisions in evidence within the team as to what should be the initial focus for the deployment of the VLE.

- A key requirement is to support the development of professional communities and to further the mentoring dimension of LDS programmes.

- While the development of portfolios and supporting reflective practice are recurring themes – both in LDS literature and in discussion relating to the VLE – there are concerns that the use of even a basic electronic portfolio may be too demanding for users. These concerns arise from two perceived difficulties. First, there is a general consensus that, for many participants, the computer-related skills required to maintain an electronic portfolio would demand require significant levels of training. Second, there is the concern that the practice of developing a professional portfolio is one unfamiliar to the majority of participants.

- Despite the likely impediments to incorporating portfolio building in the various programmes, the LDS team remain anxious to explore electronic portfolios as a supporting strategy for school leadership development.

- The need to use the VLE to support reflective practice as part of the Misneach programme was consistently emphasised by some members of the team.

- Reflective practice is frequently associated with professional development, yet, in general, the term lacks specificity. It will be necessary to identify some concrete

activities, strategies, or exercises to support the incorporation of reflective practice into the LDS leadership development model.

- A strategy to explore supporting reflective practice through the development of e-portfolios is agreed.

To further explore the concept of the eportfolio environment, and the deployment of a VLE in general, a prototype was developed for use by the LDS full-time team. This prototype was built using Microsoft® SharePoint[36] technologies. The primary elements of the prototype VLE were:

- An online discussion forum for the LDS full-time team;
- A document library;
- A team calendar;
- A sample electronic portfolio;
- An online workspace, access to which was limited to team members.

Screenshots from the prototype environment are shown in Figure 9 and Figure 10 below.

---

[36] For information on Microsoft SharePoint Server, go to: http://www.microsoft.com/Sharepoint

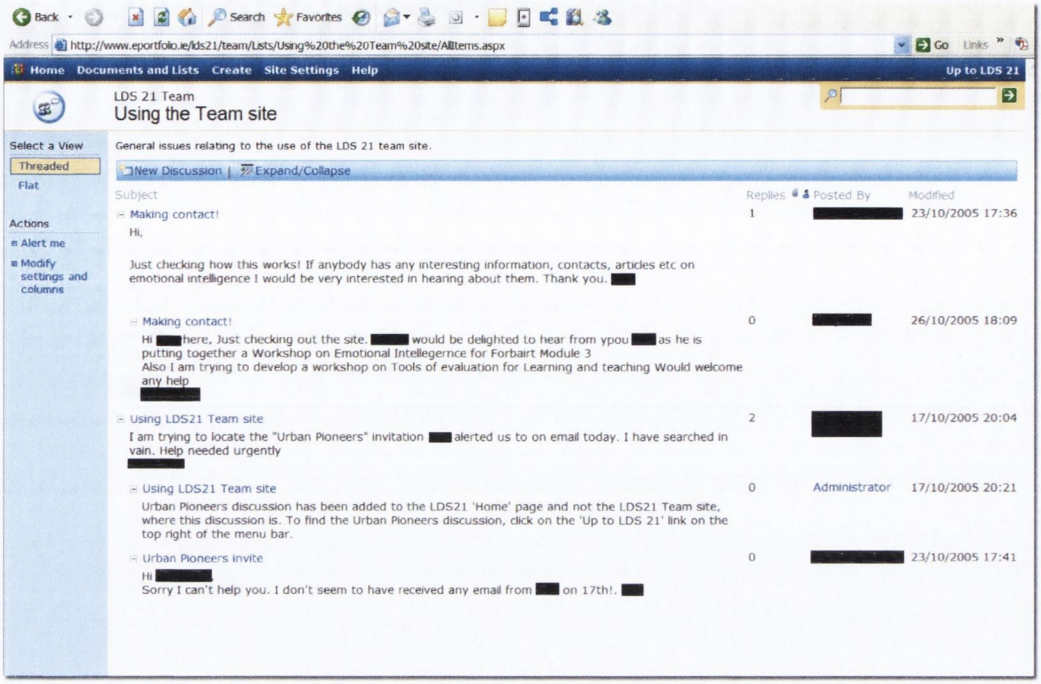

Figure 9: Screenshot from discussion forum on prototype LDS VLE

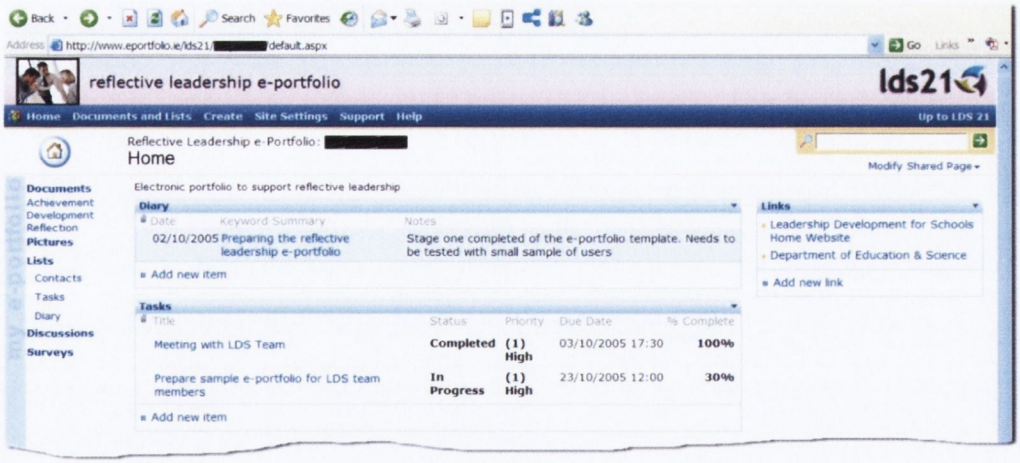

Figure 10: Screenshot of Reflective Leadership e-Portfolio

The prototype was used for a period of approximately seven weeks. Although the prototype included a sample 'reflective leadership' portfolio, the element of the VLE that was used most frequently was the online discussion forum. Data relating to patterns of user access and analyses of online discussions were insufficient to support a meaningful analysis of the effectiveness of the prototype VLE in supporting professional learning.

The proposed model for the VLE was the subject of considerable debate between the LDS team members. Discussion continued during examination of the prototype VLE and as the process of identifying a supplier of the permanent system was conducted. For example, there was much discussion around the familiarity of programme participants with computers. This perceived lack of familiarity – which was reinforced by analysis of responses to questionnaires administered informally to participants – was considered a possible stumbling block for the achievement of core objectives. In addition, there was uncertainty as to how members of the LDS team would respond to engaging with an online learning environment. A particular note of concern for some members of the LDS team was the use of electronic portfolios. For some members, the coupling of portfolio development and reflective practice was a key approach to sustained professional development. However, there was a recurring concern within the team that the development of portfolios would be beyond the current capacity of the team as well as placing an unwelcome burden of programme participants. The general consensus was to focus on using the VLE to support the establishment of networks, enhance professional dialogue, and provide access to course materials and other resources. Changes in personnel within the LDS team, in particular, a change in team members taking primary responsibility for implementing the VLE, also contributed to ongoing revision of the objectives for the VLE.

5.3 Procurement and Implementation

Estimated costs for the development of a VLE to cater for participants on all LDS programmes, and with the further consideration of using the VLE to support self-sustaining communities of practice into the future, indicated that an official tendering process would be required. As part of this process, this researcher was invited to prepare a report on VLEs for school leadership to inform the process. This report was presented in February 2004. In October 2005, official tender documentation was made available to interested parties. *Fronter*®[37] was announced as the successful supplier in February 2006. The *Fronter*® VLE platform is well established in institutions of higher education and schools. It is also used in private sector and public sector institutions. In the field of school leadership development, the system is used by the *National College for School Leadership* in the UK.

---

[37] For details on the company and the VLE platform, see: http://fronter.info/com/

Following the appointment of the preferred supplier, a part-time system administrator was appointed. The role of the administrator, in the first instance, was to provide login credentials and to create the organisational units within the system to facilitate online communities. The *Fronter*® system uses a metaphor of a building (corridors for related organisations and rooms for different communities within those organisations) to structure the organisation of different online communities within the VLE. A more detailed examination of the organisational structure of LDS *LIVE* is carried out in Chapter Five. The system administrator provided training for new users, focusing in particular on the training of LDS team members. An online 'LDS *LIVE* Help Room' was also set up, with the system administrator taking on the role of providing a help desk for users. The VLE, which was hosted in Norway, saw the first test and training users entered in April 2006, with training for administrators and LDS personnel taking place in the subsequent months. LDS Associate members were registered in May/June 2006. The first cohort of LDS participants were entered on 18 August 2006.

During this period, there were a number of changes in LDS personnel and a restructuring of the team. It is difficult to establish the impact changes in personnel in the LDS team may have on the implementation of the VLE. The internal organisation of the team would usually see one or two members taking the lead role in establishing a new initiative. This is the case for the development of the VLE. Although a relatively small number of LDS team members are charged with project-managing the implementation of the VLE, it is envisaged that the artefact will impact upon all aspects of the work of LDS. These aspects include team management, CPD programme design, programme delivery, enhanced professional learning, and improvements in the overall experience of participants. Having a small team focusing on the implementation of the VLE has the advantage of increasing the probability that the system will be effectively deployed. This project team will also develop expertise and understanding of the system. A further consideration is that as the project team comes to better understand the potential of the system, they will be able to contribute to the redesign of CPD programmes to gain the maximum benefit from the use of the VLE. However, as was the case with the implementation of LDS *LIVE*, should a number of members leave the project team, then there will likely be a discernable loss of momentum in establishing the system.

Training

In September 2006, a Code of Conduct was prepared to establish general principles of use of the VLE. The Code addresses issues such as: personal responsibility for comments made within forums; anti-social behaviour; intellectual property; acknowledgement of copyright; commitment to further the general aims of an online discussion; avoidance of personal comments; and confidentiality.

A typical training session for an LDS team member included:

- Logon to LDS *LIVE*.
- Change user password.
- Edit user personal details.
- Establish what other users are online.
- Send an internal (instant) message.
- Send an internal email ('sticky').
- Choose a room (online community).
- Customise the user 'Today Page' (home page).
- Use the system search facility.
- Upload a file to an online library.
- Create a new document.
- Download a file from the VLE.
- Create a file to which other users have limited access.
- Setup an online discussion forum.
- Create a shared document with multiple authors.
- Edit the 'Frontpage' to an online community area.

- Edit an item in the 'News' section of the online community.
- Place an event in the community calendar.
- Enrol new users into a community.

An introductory session for programme participants included:

- Guidance on accessing the VLE through the appropriate URL.
- Provision of account details, that is, user name and temporary password.
- Guidance on changing temporary user password.
- Guidance on accessing the appropriate online community or 'room'.
- Adding a comment to a discussion forum.
- Checking the accuracy of personal details and the addition of an email address where necessary.

Examining the technical competencies covered in the team member training, these are focused on establishing and maintaining an online community. These communities would support the CPD programme with which the team member is associated. This training was usually conducted over a one-day or half-day training session. The role of the online forum facilitator was not explored to any significant extent. Furthermore, there was no detailed examination of the inter-relationship between the face-to-face modules and the anticipated online elements. Periodically, there was discussion on how best to integrate the VLE into the various programmes and course modules. During this initial period, there was no significant revision of programmes in light of the introduction of the VLE.

Administration and Content Management

Since the inception of the VLE, there have been two system administrators. The appointment of these administrators broadly reflects a change in emphasis evident during the first two years of the project. Initially, the system administrator was required to establish the internal structure of the VLE. This included the populating of online communities and discussion forums. Each participant was provided with credentials to allow them to access

the system and a range of training initiatives was developed. The system administrator also established an online 'Help & FAQ' forum to help new users to become familiar with the system. A number of training videos were also produced. In general, the initial focus was on the configuration of putative online communities and the assignment of users to these communities. A further consideration was that these online communities were, to a large extent, to reflect the communities established in the face-to-face environment. The internal structure of the VLE, then, broadly replicated the organisation of LDS personnel, programmes, and participants. Consequently, the focus of the training sessions was the development of the technical skills required to establish discussion forums, manage users, and organise files and documents within the system.

The replacement of the initial system administrator in December 2007 suggests that consideration was given to a change in emphasis with respect to objectives for the online environment. While these considerations did not give rise to a detailed roadmap for the ongoing development of the system, they do appear to arise out of the challenge of encouraging participants to engage with the online environment. This change in emphasis is manifest in the establishment of two parallel online systems. At the time of reporting it is anticipated that these two systems will be integrated. Within the LDS team, these systems are sometimes referred to, informally, as LDS *LIVE 1* and LDS *LIVE 2*. Here, LDS *LIVE 1* usually refers to the original virtual learning environment based on the *Fronter*® system. This system requires a user name and password before the system can be accessed.

The second instance of the online environment (LDS *LIVE 2*) operates in tandem with the *Fronter*® system. The more recent system includes a considerable amount of programme-related material. An emphasis on the preparation of multimedia content is evident and these are available without requiring logging in to the VLE. The front end of the revised site is now the preferred 'starting point' for those accessing the LDS online presence. A user navigating to www.lds21.ie can link to the password protected section of the VLE, flagged as 'Fronter Login'. For a user, it is quite evident that they are moving between discrete systems. This is apparent not least because of the contrasting styles and navigation models used in the two systems. The password-protected section of the system continues to host discussion forums, leader's blogs, and programme materials. On the publically-accessible element, there is a concerted effort make a range of resources and documents available.

These include links to Department of Education & Science regulations, reviews of journal articles, LDS publications, and general educational news.

The differentiation between the two systems is not clearly articulated in the context of a VLE development plan. What appears to be a primary consideration is that personal details of participants and contributions to online discussion forums would remain within the password-protected area. A number of issues, arising largely from the reported experiences of LDS team members, have prompted the development of the second system. For example, LDS team members reported that significant numbers of programme participants had difficulty in negotiating the requirements to login to the *Fronter*® system. While these issues were not formally examined, there was a sense of frustration on the part of facilitators and participants alike when they were unable to access the system. The most common issue seems to be a scenario where multiple participants simply could not remember their passwords[38]. Other reported difficulties related to the lack of an adequate internet connection and difficulty in installing the required java components on a personal computer or laptop.

Linked to the development of the second online presence was the identification of the need for suitable content and resources. This material would include literature on school leadership, materials associated with various programme modules, links to multimedia presentations, and online tutorials. Concentrating on the identification and development of online content to be hosted outside the *Fronter*® system represents a discernible shift in emphasis. With the introduction of the *Fronter*® system, the early emphasis was on the establishment of online communities mirroring the face-to-face communities. These communities were populated, by the system administrator, with programme participants and LDS team members. Training in the use of the system concentrated on accessing online discussion forums, internal communication technologies, and customising the user's home page. This latter competency was deemed necessary as an early step in the development of personal electronic portfolios. For instance, a user's home page could incorporate links to preferred readings and updates from discussion forums to which they had subscribed.

---

[38] At a meeting of the LDS team on 15-01-2008 to discuss the future use of the VLE, this was a recurring theme.

With the move to concentrating on the development of instructional videos, a change in the role of LDS team members with respect to the VLE was also flagged. While it was envisaged that LDS team members would continue to use the secure sections of the VLE to plan modules, at a number of meetings they were also introduced to multimedia applications such as Camtasia Studio[39], Articulate Studio[40], and Adobe Captivate[41]. The general thrust with respect to the various LDS programmes was to concentrate on the development of online content. The discussion surrounding this change in emphasis was supported by a perceived reluctance on the part of school leaders to participate in sustained online discourse. This was encapsulated by a comment made by an LDS team member:

> People do not want to expose themselves or their schools or their views on teaching and leading.

These concerns were given credence by the experiences of one team member who maintained a blog of his first year as a school leader. As a result of comments made in relation to this blog, a decision to write all future blogs anonymously was taken.[42]

Integrating the VLE

A small number of full-time team members played a lead role in promoting the use of the VLE among participants. This included the sending of SMS messages to each participant's mobile telephone and emailing reminders to contribute to online discussions. Participants were also encouraged at face-to-face sessions to access course materials that were uploaded to the VLE. On a number of LDS programmes such as Forbairt, Misneach and Tánaiste, participants were given their account details and received guidance on how to access the system. As each new cohort was introduced to their respective LDS programme, they also received an introduction to the use of the VLE. There were also efforts to use online forums to continue discussions arising from issues addressed in face-to-face sessions with. Towards the end of a particular module, for example, a facilitator might flag that he or she would establish a discussion forum to which participants could contribute. It was also usual that a

---

[39] See: http://www.techsmith.com/camtasia.asp
[40] See: http://www.articulate.com/
[41] See: http://www.adobe.com/products/captivate/
[42] This matter was discussed on a number of occasions and specifically on 15-01-2008 and 21-06-2008.

forum seeking feedback on participants' experiences during the face-to-face sessions would be established. This forum would usually invite participants to indentify topics or issues that they would like to see addressed in future modules.

The concerns identified by the LDS team with respect to participation rates for the VLE did not result in a significant redesign or re-evaluation of CPD programmes. As noted, there was an increased emphasis on the development of online content to be made available through both instances of the VLE. To an appreciable extent, the emphasis shifted from engaging participants in online discussions located within communities of practice to the preparation of material – principally, multimedia presentations – relating to areas of leadership practice. This is not interpreted as a calculated shift in policy for the use of the VLE. It appears to have arisin out of recognition that significant numbers of programme participants do not engage with the VLE at any level. While there were suggestions that the numbers of participants logging on to the systems was comparable to some international norms, participation in online communities was recognised as being below expectations. Although no benchmark participation rates were identified prior to the implementation of the system, a sense of disappointment with the level of engagement was evident at team meetings. While the LDS team still identified areas where the VLE might contribute to the achievement of programme goals, there was difficulty in articulating how the VLE might be integrated into the existing structure of programmes. Hence, the focus shifted to identifying areas or topics that might be enhanced through the addition of multimedia presentations. Implicit in this move was the assumption that this material would prove an attraction to programme participants. Accordingly, participant access rates would increase. While the password-protected sections of the website would continue to host online discussion forums and blogs, the intention was to have a varied selection of materials available on the public-facing element of the LDS online presence. The development of online materials, it should be noted, was identified consistently as a key objective for the development of a VLE. However, this approach may be described as a relatively low-level exploitation of technology to support professional learning.

Evaluating LDS LIVE

As part of the participant research element of the project, this researcher was invited to prepare a framework that would guide an evaluation of the VLE during its early stages. At a meeting of the LDS Internal Management Committee (IMC)[43], it was suggested that this would also guide an external evaluation of the VLE. Essentially, the framework identified seven areas within which the effectiveness of the development and implementation processes could be evaluated. Four of the key areas are detailed in Table 9 below. Three of the areas – supporting access to resource materials and courses, system requirements, and implementation requirements – are omitted for clarity. Briefly, the framework encompassed the following areas of evaluation:

- Supporting the Work of the LDS Team;
- Supporting the Development of Action Learning Networks;
- Supporting Reflective Practice;
- Supporting Online Mentoring and Communication;
- Supporting Access to Resource Materials and Courses;
- System Requirements (Technical and Organisational issues);
- Implementation Requirements.

Each of these areas was associated with a general aim and a number of key questions or prompts to further the process of evaluation. The development of the framework was intended to support the LDS team in the development of related 'success indicators' and actions that would need to be taken to redress any shortcomings in the deployment of the VLE.

---

[43] The Internal Management Committee (IMC) is responsible for the administration of the LDS initiative. It includes representatives from the Department of Education & Science, LDS, and Clare Education Centre. At the meeting to consider evaluation of the VLE, the National Centre for Technology in Education (NCTE) was also represented.

1. Supporting the Work of the LDS Team	
General Aim	Key Considerations
To use a Virtual Learning Environment to support and enhance the work of the Leadership Development for Schools team.	Has the VLE made a positive impact on the planning and development work undertaken by the LDS team?
	Has the VLE significantly improved the effectiveness of LDS in accomplishing its mission i.e. the provision of support and professional development opportunities for Irish school leaders?
	Is the VLE integrated into the day-to-day working practices of the LDS team?
	Has the LDS team identified areas of the VLE that they would like to see enhanced, or have new requirements been identified?
	Are different perspectives on the use and development of the VLE in evidence with regard to, for example, full-time or part-time LDS team members, or with regard to LDS members involved with post-primary or primary programmes?
	Have LDS team members received training in the use of the system?
	What areas relating to (i) the system environment and (ii) pedagogy were addressed during training?
2. Supporting the Development of Action Learning Networks	
General Aim	Key Considerations
To use a Virtual Learning Environment to support the development of Action Learning Networks for professional development and organisational learning	How is the concept of learning networks introduced in the context of LDS programmes?
	What role do LDS team members play with respect to online learning networks?
	What steps are taken to provide participants with guidance and support in the establishment of learning networks?
	Under the aegis of LDS, how many learning networks are currently in operation?
	How and by whom are the activities of these networks monitored and evaluated?
	What specific advantages can the use of a VLE bring to the development of learning networks and how are these advantages articulated?
	What specific technological configuration needs to be designed to accommodate the hosting of a number of online learning networks or professional learning communities?
3. Supporting Reflective Practice	
General Aim	Key Considerations
To use a Virtual Learning Environment to support Critical Reflective Practice and a key strategy for ongoing personal and professional development	How is reflective practice addressed within the LDS blended learning model?
	How is it envisaged that the VLE might support reflective practice as a professional development approach?
	How is the VLE used to support the development of the professional or personal portfolio?
	How can critiques of treatment of reflection within, for example, the Misneach programme (Travers and McKeown 2005) be addressed through the use of the VLE?
	Is reflective practice promoted as a key strategy for the LDS Team?
4. Supporting Online Mentoring and Communication	
General Aim	Key Considerations
To use a Virtual Learning Environment to support professional development through virtual mentoring (e-mentoring) and through supporting protected professional dialogue and communication	To what extent has LDS LIVE been integrated in the blended learning model?
	Are face-to-face sessions designed so that there is a link between online/virtual sessions?
	What level of user activity is evident with respect to engagement with LDS LIVE?
	What are participant expectations with respect to the use of a VLE?
	Have all participates been granted appropriate access to the VLE?
	What criteria have been used to determine appropriate access to relevant sections of the VLE, that is, what criteria are used to define user access rights and permissions?
	What criteria are used to establish online discussion forums?
	Who serves as online moderator or facilitator for respective discussion forums? What criteria are used to select facilitators? What training is provided?
	Who is responsible for monitoring online discussions forums, as a whole, to analyse the substantive and qualitative of these discussions?
	What criteria are used to determine if the discussion forums are serving learning or developmental purposes?
	What measures are in place to address limited or no online interaction by LDS programme participants?
	How are intermediate online activities addressed or followed up at subsequent face-to-face sessions?

Table 9: Partial framework to support the internal evaluation of LDS *LIVE*

At the time of reporting, the framework to guide the evaluation of the implementation of the VLE has yet to be applied. However, as an element of the participatory research, this researcher conducted an initial assessment of the VLE. These findings were discussed at a meeting of LDS team members and advisors closely associated with the development of the online environment. The meeting took place in November 2007. A member of the LDS team had also engaged in an examination of the use of the system and these findings were also discussed at the meeting. There was general agreement – confirmed by system reports generated by the system software – that the numbers of participants accessing the system was quite low. Some of the data presented was derived solely from statistical reports generated by the system software. These data did not take into account that a number of user logins would be accounted for by training sessions. Nor did these data differentiate between access rates for programme facilitators and those for programme participants.

Furthermore, the reported percentage of all users accessing the system – between ten and twenty percent of all users – was deemed to compare favourably with access rates enjoyed by both the NCSL and LTS systems. However, this comparison did not take into account that the indicative rate of having ten percent of users visit an online community of practice was suggested for a community with in excess of 50,000 members (National College for School Leadership, 2007: 63). The approximate number of participants and team members registered within the *Fronter*® system at this time was less than 1,400. Comparable communities, such as those established to support a specific professional development programme, would be expected to attract visits from 75% of members. Of those visiting, 50% would be expected to make four or five contributions to forums (National College for School Leadership, 2007: 63). While these figures are not based on an analysis of the ratio of visits required to support learning within a community, the NCSL suggest that these statistics would indicate the existence of an appreciable degree of community activity. Contributors to the meeting, drawing on their experiences of working with other school leadership bodies, reported that it was not uncommon to experience difficulties in engaging leaders in online discussions. However, in relation to school principals, they were more likely to respond to a direct email addressing an area in which they had expressed an interest.

The data presented by this researcher confirmed that the number of programme participants engaging with the online communities was small. What was also apparent from

the review is that the LDS team members themselves constituted an identifiable community of practice within the VLE. While the online discussion forums did not indicate high levels of knowledge construction, significant levels of social cohesion were in evidence. Furthermore, within the discussion forums – which were, in the main, dominated by LDS team members – there were indications of a willingness to share experiences and to explore leadership issues. Data supporting these observations are fully explored in Chapter 6.

However, the difficulty in sustaining online discourse was a recurring theme. These difficulties, as already noted, contributed to a concentrating of efforts in the development of online content. For LDS team members, this would see them taking on the role of identifying and, where appropriate, preparing online content. Ideally, this content would be tailored for the programmes or modules with which they were engaged. A topic that had been to the forefront of considerations at the initial stages of VLE development – the training of LDS team members as online moderators or facilitators – was identified as an issue to be addressed in the future.

On a matter related to online content, there were additional concerns around the manner in which material was uploaded to the VLE. The bulk of the material uploaded to the VLE was done so by LDS team members. Within each online community there was a *resources* section. Within this section, team members would locate a variety of online materials. These materials were typically associated with a particular programme or programme module. However, during discussions, many users stated that they often found it difficult to locate a particular resource within the VLE. While a detailed examination of the internal filing system was not conducted, it is apparent that the organisation of information within the VLE is not guided by a suitable taxonomy. As a consequence, metadata are not used for the appropriate cataloguing of resources. This hampers retrieval and results in duplicate or multiple versions of documents spread throughout the VLE. Also, there are no formal editorial or review procedures in place for assessing the relevance or appropriateness of uploaded materials.

5.4 Observations on the Development of LDS LIVE

As a complex undertaking, the establishment of a VLE for school leadership development represents a challenge even in the most favourable of circumstances. For the *Leadership Development for Schools* initiative, the incorporation of online learning into a number of established CPD programmes is one of the most ambitions exercises undertaken in the brief history of the organisation. The period of examination covers, approximately, from June 2005 to January 2008. Although this examination focuses on the development of a VLE based on *Fronter*® learning platform, the emergence of a second online presence has been addressed. Consideration of the impact of the use of ICT for school leadership development is further complicated by the existence of two other CMC-based artefacts associated with LDS. Briefly, these are a stand-alone email system, and an online planning portal used by the LDS fulltime team.

In addition, the LDS team are exploring use of a proprietary system to facilitate web conferencing for team planning meetings.[44] The use of these systems is not addressed in the study. While the existence these of independent systems is indicative of a search for effective technological support for the CPD process, the inter-relationships between these systems is unclear. This concern is not confined to matters of interoperability. Rather, the availability of three or four systems, each of which might adequately achieve a user's desired goal, forces the user to determine which system to employ. Over time, as users engage with the different systems, there will be a lack of continuity and cohesion. It is suggested here that this will be most evident with respect to the development of sustained communities of practice.

This is not to propose that a community of practice would be limited to a single technology. Given that a community of practice supports professional learning through sustained discussion, discourse, and the sharing of ideas, it is beneficial to develop an online presence that is clearly associated with that community. The online environment, therefore, becomes a locus for professional learning as well as providing a focal point for participant interaction. Even where a coherent VLE structure is deployed, users will not be limited to a single mode of communication. Multiple modes of communication and discourse may be

---

[44] The system being used on an experimental basis at the time of reporting is *WebEx*. Details on the system are available at http://www.webex.co.uk.

incorporated within an online environment. The evidence of this discourse – online discussions, blogs, synchronous conversations, or reflective writing – will, as appropriate, be accessible to other members of the community. This organisational characteristic can be extended to the availability of resources and other artefacts.

The fragmented application of technology evident at the time of reporting is also emphasised by the lack of a clear roadmap for the future development of LDS *LIVE*. Objectives for the VLE have emerged, over time, from a number of LDS documents. Objectives have also been identified and modified outside of the formal policy development framework. These revised objectives typically come to light in the face of experiences in the implementation of the VLE. These aims can be grouped within seven broad categories: communities of practice; mentoring and peer support; enhanced communication; reflective practice; portfolio development; access to resources; and programme development.

Communities of Practice

Although the concept of communities of practice is not referred to explicitly in documentation on LDS *LIVE*, the establishment of such communities is implied. Core organisational elements of the LDS initiative, such as programme development teams and programme participants, exhibit key characteristics of communities of practice. Certainly, they are comprised of practitioners seeking to improve practice, both individually and collectively. The social cohesion that binds the community arises from a common commitment to, and understanding of, the practices, language, and expertise that define the area of school leadership. A primary function of a VLE, therefore, is to support the development of, and membership of, multiple communities of practice. These communities would constitute important contexts for professional learning.

Mentoring and Peer Support

Considered to be one of the most important approaches to professional development, references to mentoring appear frequently in LDS documentation and on related web pages. In the documentation, there is no clear distinction between mentoring and peer support. As noted, the approach envisaged, particularly in relation to new and beginning school leaders, is more correctly identified as peer support. The more critical and reflective elements central to mentoring role, together with appropriate training, have yet to be addressed. Nevertheless,

it is anticipated that the VLE will facilitate communication between mentors and protégés at a place and time of their choosing. In particular, the VLE will support mentor/protégé interaction when face-to-face meetings are not possible and the protégé may be keen to receive guidance on a given issue.

Enhanced Communication

Related to both communities of practice and peer support, the capacity of a VLE so support communication between practitioners is cited. Enhanced communication structures – synchronous and asynchronous – are required to support discourse within communities of practice. This professional dialogue is at the heart of professional learning. Communication technologies also facilitate interaction between disparate communities of practice, thereby giving rise to the possibility of the development of new or extended communities. However, as identified by LDS, it is important to establish communication links with practitioners and researcher in other jurisdictions. The internationalisation of the CPD process will be support by appropriate CMC technologies.

Reflective Practice

Although sometimes employed as a proxy for a theory of professional learning, reflective practice is identified as an important CPD strategy. Considerable attention was paid by the LDS team to the ways in which reflective practice could be supported with the aid of a virtual learning environment. Reflective practice is generally associated with critical thinking and a VLE would support reflection in two general ways. First, the VLE would support practitioners to engage in 'protected dissonance' within the context of online discussion forums. This discourse would be both supportive and challenging. The exposure to new thinking and the challenging of established thinking within the forums would be the catalysts for reflective practice. Second, the VLE would support reflective writing. This support would take the form of, for example, the keeping of a personal online reflective journal.

Portfolio Development

An additional support for reflective practice is the development of the professional portfolio. The professional portfolio – in particular, an electronic or online portfolio – has the potential to incorporate a number of the elements identified above. For example, a portfolio may include a reflective journal. It may incorporate online discussions between mentor and

protégé as well as discussions carried out in the context of a community of practice. A portfolio can also be configured as an organisational tool to support both professional practice and development. From the experience of LDS, the development of the portfolio– whether physical or digital – in support of reflective practice was considered to be one of the most significant challenges for programme developers and participants alike.

Access to Resources

It was anticipated that the VLE would facilitate access to a wide range on online resources. These resources would include tutorial, multimedia presentations and research literature on leadership. Online libraries would also house documentation and materials prepared to support the face-to-face sessions of the various programmes. As noted, the preparation of resources to support the various CPD programmes is not identified as a priority for LDS. A related and necessary element of preparing and uploading resources to the VLE is the development of a suitable taxonomy of information. Although no formal procedures for the development of a taxonomy have yet been put in place, the need to structure and organise online resources has arisen from the experiences of the LDS team.

Programme Development

The final category of objective for the development of the VLE it to support the ongoing improvement of professional development programmes. This objective relates, in the main, to the work of the LDS team. The VLE is to facilitate team meetings and planning. Although the team avails of other systems for web conferencing and communication, LDS *LIVE* will facilitate cooperative planning among team members. Practical approaches include the use of versioning while working on a shared document or presentation, and the use of discussion forums to exchange and develop views on programme objectives and format. In essence, programme development would take place in a continuum between online and face-to-face interactions.

5.5 Phases of VLE Development

During the development of LDS *LIVE*, there were periods of relative inactivity. A number of significant events punctuate the timeline. While the events are not presented here as waypoints identified within an overall development plan, they do reflect the authentic

experiences of an organisation attempting to introduce a significant innovation. These events can be located within three broad phases: conceptual and modelling phase, procurement and implementation phase, and review and repositioning phase.

Conceptual and Modelling Phase

The development of an online environment to support professional learning for school leaders was identified at an early stage of the work of LDS. This objective was in keeping with international developments in the field of school leadership development. The experiences of other organisations such as the *National College for School Leadership* in the UK are identifiable influences. Although there are recurring references to online learning, there is no examination of the theories of learning or methodologies that are to support learning. Specific forms of interaction, such as in the context of a learning community or as part of a mentoring arrangement, are emphasised.

The overall CPD approach is envisaged as being a 'blended learning' or 'mixed-methods' approach. In the model, face-to-face components would continue to use learning contexts such as group-work, mentoring, lectures, seminars, and workshops. These contexts were to be combined with elements such as online communities and online discussion forums. Overall, however, there is little examination of the practices and activities that will support professional learning. There is an assumption that learning is underpinned by providing opportunities for practitioners to interact. In turn, professional dialogue is the trigger for individual reflective practice. Throughout this phase, and in the other phases identified, there is ongoing identification and revision of objectives and desirable functions of the VLE.

The development of a conceptual model and implementation of a prototype VLE are key events in this phase. The conceptual model (see: Proposed Model: An Electronic Portfolio environment, page 151) was predicated on the development of a number of learning spaces. These spaces, which were constituent elements of an extended electronic portfolio model, were themselves constituent elements of a virtual learning environment. Prompted by the development of the model, the use of electronic portfolios to support reflective practice was identified as an important consideration when implementing the VLE. To explore the practical application of a reflective portfolio as well as to test the general use of a VLE, a prototype was developed. Although the prototype environment was used only by a small

number of LDS team members for a relatively short period of time, it did serve to highlight some potential difficulties. Chief among these was the challenges inherent in the development of a portfolio – electronic or otherwise – in the context of a CPD programme.

Procurement and Implementation Phase

Moving towards the procurement of a dedicated system necessitated a formal tendering process. Documentation for the process included a summary and reaffirmation of the key objectives of the VLE. This summary was prepared by the LDS team and was appended to specification of the technical, service, and training elements of the contract. The tender documentation was made available to organisations and companies so that they might submit an application to supply the VLE system. The tender process for supply of the system was carried out by the *National Centre for Technology in Education* (NCTE). Following the tender process, the contract for supply of the virtual learning environment system was awarded to *Fronter*®. This company has developed a propriety learning platform and is the system now used by NCSL to provide their *talk2learn* online environment. As the online environment would be hosted in Norway, this removed the need to develop a local ICT infrastructure.

Following the nomination of a preferred supplier and the commissioning of the base VLE system, a part-time administrator was appointed. The administrator, together with members of the LDS fulltime team, received training in the use of the system. This training did not address pedagogical approaches or specific methodologies such as online facilitation. In general, the training focused on the organisation of online communities ('rooms' in the terminology of the *Fronter*® system) within the VLE. Related skills addressed were those of document management and the use of synchronous and asynchronous communication technologies within communities.

Organisationally, online communities mirrored the structures of LDS personnel and programmes. Communities were established and populated according to their physical counterparts. In August 2006, all LDS team members and all registered programme participants were entered into the system. A brief introduction to what was now referred to as LDS *LIVE* was incorporated into programmes such as Misneach, Tánaiste and Forbairt. The majority of participants received training. This training focused on skills such as: how to

access the system through a web browser; how to find a relevant online community; how to contribute to an online discussion forum; how to upload documents; and how to use communication technologies such as email and instant messaging clients.

During the procurement and implementation phase, there was ongoing discussion on how best to utilise the VLE. Consideration was given to formal training of LDS team members as online facilitators but not acted upon. Members of the LDS team further explored the VLEs maintained by the *National College for School Leadership* (NCSL), *Learning and Teaching Scotland* (LTS), and the *Regional Training Unit for Northern Ireland* (RTU NI). Through the use of email and SMS messaging, efforts were made to encourage participants to engage with the online environment. Team members also used the system in the planning and development of CPD programme modules. During approximately the first twelve months of the initiative, much attention was paid to how to attract higher rates of participant use of the VLE. This gave rise to the use of weekly blogs written by newly-appointed school leaders and to the development of multimedia presentations on leadership issues. Throughout this phase there was ongoing reflection and discussion on the challenges in embedding the VLE into the existing professional development process.

Review and Repositioning Phase

During the early months of the introduction of the VLE, attention was focused on how to evaluate the effectiveness of the programme. The contract with the system supplier was initially for one year and the *National Centre for School Leadership* (NCTE) would require an evaluation before renewing the contract. A framework to guide this evaluation was developed but not fully implemented. This researcher presented an initial analysis of LDS *LIVE* to members of the LDS team. The analysis was an integral element of the participatory action research approach of the research. A number of members of the LDS fulltime team also carried out analyses of the implementation of the system. However, these latter analyses were limited to examination of statistics on user logon rates. An evaluation of the effectiveness of the VLE based solely on an analysis of participation rates is considered inadequate. If the VLE is to support communities of practice, then an evaluation must incorporate qualitative analyses. In particular, this entails an examination of online discussion forums for evidence of professional learning and knowledge construction. In addition, an evaluation must make reference to the formal objectives of the VLE as well as

accounting for the objectives emerging during the modelling and implementation phases of the project.

Although not subject to formal analysis, the internal organisation of files and documents in the VLE is problematic. No protocols for the organisation or meta-tagging of files were used. Different sections of the VLE contain multiple versions of similar documents and users reported that the system search facility was at times unable to locate key documents. Furthermore, there are no guidelines to help to identify appropriate content, nor is there a system of editorial approval before material can be made available through the VLE.

Although the application of a formal evaluation process was limited, the ongoing informal analyses by LDS team members were influential. However, these analyses were not incorporated into a formal review and redesign framework. Upon the identification of areas where the VLE was failing to meet expectations, there were no systematic approaches to establishing ways in which these deficits might be addressed. Despite the lack of a guiding framework, there was an identifiable repositioning with respect to priorities set for the use of the VLE. This can be examined with respect to the six categories of objectives identified above (see page 169). In practice, objectives relating to the development of online communities of practice, mentoring and peer support, reflective practice, and portfolio development have been de-emphasised. Enhanced communication and information exchange is still prioritised, although the primary conduit is email. And in the areas of programme development, the research data confirm that the bulk of sustained contributions to online forums are made by LDS team members. The data confirming these observations are fully detailed in chapter 6.

The most significant repositioning is in the category of access to resources. In order to try to improve access rates to the VLE, the development of online resources is now identified as a priority. The development of resources such as multimedia tutorials and presentations on leadership issues is considered to be both tangible and achievable in a relatively short timeframe. The change in emphasis is, at least in part, made manifest by the development of LDS *LIVE 2*, the emergent online presence operating in parallel to the *Fronter*® system.

5.6 Discussion

The case study exposes the challenges of making changes to established approaches to continuing professional development. In this example, the implementation of a virtual learning environment may potentially influence all aspects of the professional development enterprise undertaken by the *Leadership Development for Schools* initiative. However, as the examination demonstrates, there may be significant differences between intended and actual outcomes with respect to the use of the online environment. As many treatments of educational policy would confirm, it is not uncommon for objectives to be stated without adequate examination of the barriers – systemic, organisational, and individual – to be overcome (Apple & Weis, 1983; Drudy & Lynch, 1993; Fullan, 1993, 2001; Goodson, 1994; Hargreaves, 1992; Hargreaves & Fink, 2006; Lynch, 1989; O'Sullivan, 1989).

The internal organisation of LDS and the resulting organisation of LDS *LIVE* are based implicitly on the development of communities of practice. These communities are overlapping, but they are justified on the basis that the challenges and skills needed by participants in the communities can be differentiated sufficiently to warrant organisation as a relatively independent entity. Examples of differentiation here are communities established to cater for primary or post-primary school leaders, programmes for experienced leaders, and programmes to cater for the needs of newly appointed principals and deputy principals.

With respect to the development of the virtual learning environment, three broad phases are identified. These are: the conceptual and modelling phase; the procurement and implementation phase; and the review and repositioning phase. What is most striking is the dissonance between the objectives that were identified for the online environment during the conceptual and modelling phase and the actualities of virtual learning environment use during the review and repositioning phase.

The review of the key developments in the initiative also emphasises how vulnerable the system is to deflection from the achievement of stated objectives. Where failures to achieve stated objectives were experienced, a limited number of responses were considered. These responses were framed within prevailing models of CPD and were influenced in particular by the perceived needs of newly-appointed school leaders. While any innovation is likely to encounter challenges and setbacks, the need for a guiding conceptual framework is necessary

to reduce the likelihood that these challenges will render the innovation ineffective. Furthermore, a framework that is premised on objectives and contexts but does not adequately address matters of pedagogy and learning theory is inadequate. A final consideration for the framework is that it must allow for practitioners to be exposed to challenges and contradictions to their belief systems. As the primary influence on leadership action, these cognitive maps can constitute deeply-entrenched beliefs on the nature of teaching, learning, and leadership. Exposing practitioners to contrasting perspectives in support of professional development runs the risk of being met with resistance or hostility. The hallmark of an effective professional development intervention will be the manner in which challenges to individual thinking and practice can be accommodated and refocused in support of learning

6 Presentation and Analysis of Research Data

The case study detailed in Chapter Five is also the context for an examination of activity and learning within a virtual learning environment. The data arising from the examination will contribute to understanding of the issues of engaging practitioners in online learning. Furthermore, the findings will contribute to the identification of elements to be included in the proposed conceptual framework. A number of data sources related to the implementation of LDS *LIVE* (the virtual learning environment associated with the *Leadership Development for Schools* initiative) are utilised. These are:

- A questionnaire administered to LDS team members.
- A statistical analysis of patterns of user activity within the virtual learning environment with particular emphasis on the activity of LDS team members.
- A content analysis examination of contributions to online discussion forums to identify degrees of social presence and cognitive presence within the forums.

The collation and analysis of data from these sources will, when examined with reference to the established theoretical context, suggest implications for the use of virtual learning environments for school leadership development. While the research project is limited in scope, it does contribute significantly to the field of empirical research on the use of virtual learning environments to support professional development. More specifically, the research focuses on the activities and perspectives of continuing professional learning programme designers at the early stages of implementation.

The data incorporates:

- Perspectives on the use of virtual learning environments for school leadership development on the part of programme designers;

- Self-reported patterns of undertaking ICT-related activities to gauge access to relevant technology and to suggest competency in completing basic ICT-related tasks;
- Perspectives on effective means to support continuing professional learning for school leaders;
- Perspectives on the use of a virtual learning environment to support CPD for school leaders;
- Patterns of team and participant use of the online environment; and
- Content analysis of online discussion forums to indicate the extent of social presence and cognitive presence within the virtual learning environment.

The themes arising from analysis of these data can be combined to support analysis of the development of a VLE to support CPD for school leadership. This in turn facilitates the development of a framework to guide the effective deployment of online learning environments in support of school leadership development.

The objectives of the chapter are to facilitate the initial presentation of research data. The chapter will highlight the main themes arising from an analysis of data derived from an online questionnaire, data relating to patterns of activity within the VLE, and the analysis of online discussion forums. These analyses are central to identifying issues of engaging school leaders in professional development initiatives that are supported by the use of a virtual learning environment. They also contribute to exploration of the key research questions underpinning the central premise, namely:

- What is the current understanding of school leadership and approaches to continuing professional development for school leaders?
- What models of professional development for school leadership are used to develop or enhance leadership competencies?
- How effective is the development and deployment of a virtual learning environment in supporting professional development for school leadership?

- What are the key elements of a model to guide the future use of CMC-supported continuing professional learning?

Conclusions and implications will derive from an analysis of these data with respect to the theoretical context established.

6.1 Research Population

The research population consisted of fulltime and part-time members of the LDS team, who are responsible for the design and delivery of professional development programmes. Analysis of user statistics with respect to the online environment and forum content analysis also incorporates programme participants. Programme participants are, in the main, principals and deputy principals of primary and post-primary schools in Ireland. The LDS team is comprised mainly of principals and deputy principals. The fulltime team are, in general, seconded from their school and serve as programme coordinators. Part-time team members – usually referred to as 'LDS Associate Members' – are generally fulltime practitioners who devote a number of days per year to programme design and delivery.

It is appropriate to highlight the engagement of the LDS team within the online environment. The LDS team exhibits characteristics of a community of practice and, as such, the team is populated by individuals who share experiences, challenges and solutions. This sharing contributes to the enhancement of each individual member's knowledge and also contributes to the development of community knowledge. As a professional learning community, the LDS team is charged with: the design and delivery of programmes to meet learner needs; evaluating and challenging team-designed programmes; evaluating practices and experiences; and meeting regularly to collaborate on improving professional learning programmes. Consequently, the activities of the team would indicate some of the issues relating to the use of a virtual learning environment to support communities of practice. An additional consideration it that while there are a number of instances where an online environment is deployed to support school leadership development, analyses tend to concentrate on the activities and experiences of programme participants. Studies of the use of online environments by those responsible for designing continuing professional learning programmes do not feature in the literature.

6.2 Questionnaire Data

The overall response rate was 78.4% (37 responses). For the full-time team members, there were eleven responses (78.6% of the full-time team member sample) and 26 responses were received from part-time team members (66.7% of part-time team member sample). Within the sample, eighteen (48.6%) were female and nineteen (51.4%) were male.

LDS team members are drawn from primary and post-primary sectors, with the largest number of members coming from the primary sector. At post-primary level, representatives from the secondary, vocation, and community/comprehensive school types are also team members. A smaller number of team members are retired practitioners or occupy administrative positions outside of individual schools. The representation of the various sectors and school types within the research sample is detailed in Table 10 and Table 11 below.

Sector	*Number*	*Percent*
Total Primary	22	59.5%
Total post-primary	13	35.1%
Other (administrative appointments, retired practitioners)	2	5.4%
Total	*37*	*100%*

Table 10: LDS team member representation by school sector

School Type:	*Number*	*Percent*
Primary School	22	59.5%
Voluntary Secondary School	7	18.9%
Community/Comprehensive School	3	8.1%
Vocational School/Community College	3	8.1%
Other	2	5.4%
Total	*37*	*100.0%*

Table 11: LDS team member representation by school type

Within the sample, 31 respondents, representing 83.8% of the sample, currently hold, or were seconded from, the position of school principal. As shown in Table 12 below, the remaining respondents were deputy principals (2), assistant principals (1), or retired practitioners or administrators (3).

School Leadership Position	***Number***	***Percent***
Principal	31	83.8%
Deputy Principal	2	5.4%
Assistant Principal	1	2.7%
Other (administrative appointments, retired practitioners)	3	8.1%
Total	*37*	*100.0%*

Table 12: School leadership position held by LDS team members

In general, LDS team members contribute to a number of CPD programmes. Table 13 below indicates the numbers of programmes to which respondents contribute, either as a developer or as a presenter. The majority of team members (64.8%) have contributed to two or more programmes.

Number of CPD Programmes	***Number***	***Percent***
One Programme Only	13	35.1%
Two Programmes	9	24.3%
Three Programmes	9	24.3%
Four Programmes	6	16.2%
Total	*37*	*100.00%*

Table 13: Number of LDS team members associated with multiple CPD programmes

Looking at individual programmes, Table 14 below outlines the number of LDS team members involved with individual CPD programmes.

Programme Title	***Number****	***Percent****
LDS Misneach Primary	12	32.4%
LDS Misneach Post-Primary	11	29.7%
LDS Forbairt Primary	11	29.7%
LDS Tánaiste Post-Primary	10	27.0%
LDS Tánaiste Primary	8	21.6%
LDS Spreagadh	8	21.6%
LDS Forbairt Post-Primary	7	18.9%
LDS DEIS	6	16.2%
Middle Leadership	3	8.1%
*As number/percentage of sample (N = 37)		

Table 14: Number of LDS team members associated with CPD programmes

The various programmes are usually differentiated with respect to school sector (primary or post-primary) and target group (for example, newly appointed principals, newly-appointed deputy principals, or established principals and deputy principals). A smaller number of

programmes, such as LDS *DEIS*[45], may include primary and post-primary participants and team members.

An initial observation is that a relatively small number of team members have responsibility for providing continuing professional learning programmes for a potentially large cohort of practitioners. For example, the LDS Forbairt Primary programme provides development programmes targeted at established principals and deputy principals in primary schools. For the year 2005/2006, there were 3,284 primary schools receiving aid from the DES[46]. Similarly, the LDS Forbairt Post-Primary programme focuses on established school leaders within the post-primary sector. Also for the year 2005/2006, there were 735 schools receiving aid from the DES. Although the potential cohorts for the Misneach (new principals) and Tánaiste (new deputy principals) programmes are significantly smaller, the size of the LDS team would dictate that only a relatively modest number of participants could be catered for. This is also reflected in the programme structure. The CPD model is not one of long term support and engagement. For example, programmes such as Misneach and Tánaiste are planned for delivery over two years and incorporate a number of two-day residential sessions. Programmes such as LDS Forbairt do identify the establishment of self-sustaining action learning networks as a programme goal. While no reliable data are available, these networks appear to have only been established on a short-term basis within the context of an individual programme.

Responses on School Leadership Competencies and Professional Development

Continuing personal and professional development programmes will be influenced by views on core leadership competencies and the means by which these competencies can be enhanced. Given the key role played by LDS team members in the development of continuing professional learning programmes, their perspectives on school leadership competencies and professional development supports will shape the manner in which a VLE will be utilised. Initially, respondents were asked to rate the importance of a number of

---

[45] DEIS (*Delivering Equality of Education in Schools*) is a Department of Education & Science initiative to address disadvantage in school. Information on the initiative can be viewed at: http://www.education.ie/home/home.jsp?pcategory=17216&ecategory=33128&language=EN

[46] Source: http://www.education.ie/servlet/blobservlet/Key_stats_leaflet_05_06.pdf

identified leadership activities and competencies. These responses are presented in Table 15 below.

School leadership activities and competencies	***Rated 'Important' or 'Very Important'***	
	Number	*Percent*
Developing and sharing a distinctive vision for the school	37	100.0%
Developing a leadership style that is characterised by ethical and moral standards	37	100.0%
Ability to communicate clearly, both orally and in writing	37	100.0%
Ability to develop, and work as part of, school-based teams	35	94.6%
Maintaining a visible presence in classrooms	35	94.6%
Maintaining a visible presence on school corridors and common areas	34	91.9%
Initiating school-based research on effective school practices	33	89.2%
Involving parents in the development of school plans and policies	33	89.2%
Implementation of national policies on curriculum change and development	32	86.5%
Engaging local community organisations and business in the development of school policies and curriculum	32	86.5%
Developing programmes of school-based professional development for teachers	32	86.5%
Developing systems of financial control	31	83.8%
Developing links with institutions involved in education research to development leadership and teaching skills	31	83.8%
Engaging teachers in studies of effective teaching	31	83.8%
Developing a school library for staff containing educational research materials	30	81.1%
Developing a library of subject resources and materials	29	78.4%
Promoting the use of information and communication technology as a teaching and learning tool	28	75.7%
Developing school-based systems of mentoring for staff development and support	27	73.0%
Developing staff communication systems and conflict -resolution strategies	19	51.4%
Engaging teachers in professional development programmes to prepare them for future school leadership roles	10	27.0%
(n = 37)		

Table 15: School leadership competencies rated as 'important' or 'very important' by LDS team members

An initial examination of these data suggests that the LDS team would identify a range of competencies as being important to the school leadership role. These activities and competencies would suggest areas to be addressed within continuing professional learning programmes. Activities highlighted as being important or very important range from the development of a distinctive vision for the school to developing school-based programmes of professional learning for teachers. Of note is the relatively low percentage of respondents (27%) indicating that 'engaging teachers in professional development programmes to

prepare them for future school leadership roles' was an important or very important leadership. Given the emerging importance of concepts of distributed leadership and communities of practice, these responses suggest an area for further investigation.

Responses on the Use of Information and Communication Technologies

As the research is focused on the use of a virtual learning environment to support school leadership development, the extent to which the programme developers have access to ICT and are familiar with ICT-related activities is of significance. Of the 37 respondents, 81.1% have a desktop computer available to them, either at home or at their school, while 89.2% have access to a laptop computer. In addition, 5 respondents (13.5%) have access to a personal digital assistant (PDA). The data also indicate that 27 respondents (73%) have access to both a desktop computer and a laptop computer. With the exception of one respondent – who indicated the use of a personal digital assistant (PDA) – all team members confirmed access to either a laptop or personal computer.

All respondents indicate that they have internet access, both at their home and at their school. For internet access at home, 86.5% of respondents indicate that they have broadband access. A similar number of respondents indicate the availability of broadband internet access at their school.

Examining ICT-related activity, all respondents report that they send or reply to an email message frequently (one per week) or very frequently (once per day). Relatively high percentages of respondents report that they frequently use a word processing package to prepare a letter or report (94.6%), access a website for information or research purposes (86.5%), and access school-related data, such as student records or timetables (81.1%). In addition, 62.2% of respondents report that they access an online forum or online learning community on a daily or weekly basis. This last response did not exclude access to the LDS virtual learning environment, which was being implemented at the time the questionnaire was administered. The data on ICT-related activities are presented in Table 16 below.

ICT-related activity undertaken by respondents	**Activity undertaken 'Frequently' or 'Very Frequently' (%)**	
	Number	*Percent*
Send or reply to an email	37	100.0%
Use a word processing package to prepare a letter or report	35	94.6%
Access a website for information gathering or research purposes	32	86.5%
Use a computer to access school-related data such as timetable details or student records	30	81.1%
Access an online forum or online learning community	23	62.2%
Use a presentation package (e.g. PowerPoint) while addressing a meeting or gathering	17	45.9%
Use a drawing, graphics or photo-editing application	8	21.6%
$n = 37$		

Table 16: Frequency of ICT-related activity undertaken by team members

The data do not give an indication as to competencies or proficiencies in ICT-related activities. However, the data confirm that the team has, in general, ready access to computers and internet access. The data also suggest that team members engage in activities that require at least basic ICT competencies – such as sending and receiving emails, preparing letters and reports, and accessing websites and online information sources – on a regular basis.

Respondents were also asked to state if they have accessed an online or virtual learning environment, other than LDS *LIVE*. As presented in Table 17 below, 56.8% of the sample indicated that they had not accessed another VLE while 27% have used a VLE as part of a college or other institution course. Other categories of virtual learning environments used are: environments maintained by providers of CPD programmes in other countries, in this instance, the NCSL in England (8.1%); virtual learning environments maintained by trade unions or professional representation bodies (5.2%); and a school-based environment or virtual learning environment developed by a local education authority (5.4%).

Access to VLE/online learning environments	*Number*	*Percent**
Respondents who have **not** accessed a VLE (other than LDS LIVE)	21	56.8%
Type of VLE/online learning environments accessed	***Number***	***Percent***
VLE established by a third level institution, including online courses and programmes of study	10	27.0%
VLE developed by CPD programme providers outside Ireland	3	8.1%
VLE established by a professional representation body or trade union	2	5.4%
School-based VLE or VLE established by a local education authority	2	5.4%
**Percentages do not total 100% as some respondents indicated access to more than one category of VLE (n = 37)*		

Table 17: Levels of access to virtual learning environments other than LDS *LIVE*

In summary, the data suggest that within the sample, there are very high levels of access to computers and to high-speed internet connections. Also, the data suggest that respondents frequently engage in key ICT-related activities, such as sending and receiving email, accessing websites and other online data sources, and preparing letters and reports. Sixty two percent of respondents access an online learning environment frequently or very frequently, while almost 57% have not visited an online environment other that LDS *LIVE*.

Responses on Supports for School Leadership Development

Respondents were also asked to rate the effectiveness of professional development supports or activities (Table 18 below). The data confirm that the respondents consider opportunities for practitioners to discuss leadership issues with colleagues an effective CPD activity. Specifically, almost 92% of the LDS team sample identify discussing school leadership issues with an experienced practitioner and engaging in face-to-face meetings with other school leaders as part of a professional network as effective CPD activities. Participating in local cluster meetings on 4 to 6 occasions per year is also rated 'effective' by 78.4% of the sample. Telephone communication with other school leaders is also highly rated, with 81.1% of respondents indicating this as an effective or very effective support. The rating of face-to-face and telephone communication is in marked contrast to written communication, which is rated effective by 29.7% of respondents. Computer mediated communication via email and within a collaborative online environment are each regarded as effective supports by 56.8% of the sample.

Professional development support or activity	***Rated 'Effective' or 'Very Effective***	
	Number	*Percent*
Discussing leadership issues with an experienced school leader	34	91.9%
Face-to-face meetings with other school leaders - perhaps 3 to 4 times per year - as part of a professional network	34	91.9%
Telephone communication with other school leaders	30	81.1%
Participating in leadership development programmes such as Higher Diplomas and Masters programmes	29	78.4%
Participating in a local cluster or network of school leaders meeting perhaps 4 to 6 times per year	29	78.4%
Undertaking personal research on educational issues	28	75.7%
Membership of professional representative bodies such as NAPD, IPPN, or PDA.	26	70.3%
Participating in in-service leadership development programmes of relatively short duration (for example 2 to 4 days per year)	25	67.6%
Having access to a library of resources or materials gathered from other school leaders	24	64.9%
Email communication with other school leaders	21	56.8%
Participation in an online or virtual environment in collaboration with other school leaders	21	56.8%
Subscription to educational journals or other research materials	18	48.6%
Reviewing texts and journals on educational research	16	43.2%
Online (computer-based) discussions with researchers, writers or authorities on education	16	43.2%
Reading of educational supplements or sections in newspapers	15	40.5%
Liaising with members of the Department of Education & Science's inspectorate	14	37.8%
Membership of a trade union organisation	14	37.8%
Attending lectures or seminars hosted by Universities or Colleges	11	29.7%
Written correspondence with other school leaders	11	29.7%
($n = 37$)		

Table 18: Supports for the professional development of school leaders rated as 'effective' or 'very effective' by LDS team members

These data can be examined in conjunction with the responses, tabulated in Table 19 below, on respondents' views on supports for newly-appointed school leaders. Again, there is a significant emphasis on providing opportunities to engage with other school leaders. Opportunities to discuss leadership activities with an experienced school leaders and participation in a network of school leaders are rated as effective supports by 91.9% and 83.8% of respondents respectively. The relatively high rating for opportunities to engage with other school leaders can be contrasted with the perceived effectiveness of participating in an online community (rated as effective or very effective by 59.5% of respondents) and attending seminars hosted by universities of colleges (rated as effective by 29.7% of sample).

Perceived effectiveness of the supports for the professional development of newly-appointed school leaders:	*Rated 'Effective' or 'Very Effective'*	
	Number	*Percent*
Discussing leadership issues with an experienced school leader	34	91.9%
Participating in a local cluster or network of school leaders, meeting perhaps 4 to 6 times per year	31	83.8%
Participating in in-service leadership development programmes of relatively short duration, for example, 2 to 4 days per year	29	78.4%
Participating in leadership development programmes such as Higher Diplomas and Masters programmes	27	73.0%
Having access to a library of resources or materials gathered from other school leaders	22	59.5%
Participating in an online or virtual learning community	22	59.5%
Attending lectures or seminars hosted by Universities or Colleges	11	29.7%
(n = 37)		

Table 19: Professional development activities for newly-appointed school leaders rated as 'effective' or 'very effective' by LDS team

Respondents were also asked to outline the approaches or strategies they regarded as being most effective in supporting the professional development of newly-appointed school leaders. These open responses were coded and the data is presented in Table 20 below.

*Approaches identified as effective in supporting the professional development of newly-appointed school leaders**	*Number*	*Percent*
Mentoring from experienced colleagues	16	43.2%
Participation in formal in-service programmes	14	37.8%
Meeting with other school leaders as part of a network	13	35.1%
Participating is action research, case study research or reflective practice	6	16.2%
Participation in online communities and learning environments	4	10.8%
Development of, and access to, an online knowledge source	2	5.4%
No data	2	5.4%
*Some respondents indicated more than one support for professional development within a single response (n = 37)		

Table 20: Strategies identified by LDS team as effective in supporting the professional development of newly-appointed school leaders

The strategies identified by respondents to support newly appointed school leaders are generally within the activities proposed in relation to generic school leadership development. However, there are clear references to mentoring in the responses, one example of which is reproduced below:

> In-service such as Misneach and also mentoring by an experienced and trusted colleague. I believe that when first appointed new school principals often find themselves floundering and

> their greatest need initially is a practical course and practical support with the nitty gritty of everyday challenges.
>
> (Open response: online questionnaire: Q19)

In all, 43.2% of respondents highlighted mentoring and opportunities to meet with experienced colleagues as a priority for professional learning for newly-appointed school leaders. A significant percentage of respondents (35.1%) also identified meeting with other school leaders as part of a network as the most effective support for newly-appointed school leaders. Together with participation in formal in-service professional development programmes – identified by 37.8% of respondents as an effective support – some responses identified combinations of strategies to support new school leaders. For example:

> Combination of high quality off site [professional development], [plus] follow up in their own school environment through mentors, supporting [professional development] communities or clusters.
>
> (Open response: online questionnaire: Q19)

> Involvement in a local cluster of schools of similar size. In the first 100 days in position being given at least 2/3 days out of school in a problem solving blitz mode and another 2 days that focuses on developmental issues. This should happen with experienced leaders.
>
> (Open response: online questionnaire: Q19)

While the definition and practice of mentoring can be problematic, the responses to the questionnaire clearly identify access to experienced colleagues – as part of a mentoring programme, within the context of a professional learning network, or a combination of these activities – as an important and effective strategy. Overall, the team respondents consistently emphasise the effectiveness of face-to-face communication and mentoring as continuing professional learning supports. While not rated as effective to the same degree, respondents also indicated that undertaking personal research on educational issues and membership of professional bodies such as NAPD, IPPN, and PDA supported professional development.

The perceived effectiveness of these supports can be contrasted with the lower percentages of respondents who rated 'email communication with school leaders' (56.8%),

'participation in an online or virtual environment in collaboration with other school leaders' (56.8%), and 'online computer-based' discussions with researchers, writers or authorities on education' (43.2%) as effective or very effective. The activity receiving the lowest rating was 'written correspondence with other school leaders', which was rated effective or very effective by 29.7% of respondents. Other potential supports that received relatively low rating with respect to effectiveness were: liaising with members of the Department of Education & Science inspectorate (37.8%); membership of a trade union organisation (37.8%); and attending lectures or seminars hosted by universities of colleges (29.7%).

Responses on Virtual Learning Environments to Support Professional Development

Respondents were asked to rank the importance of a number of objectives associated with the development of a virtual learning environment for school leadership development. These responses are detailed in Table 21 below.

Objectives for the development of a VLE	***Rated 'Important' or 'Very Important'***	
	Number	*Percent*
Providing school leaders with a forum to discuss issues with leaders in other schools	33	89.2%
Supporting the development of 'reflective practice' as a professional development activity	33	89.2%
Supporting the planning and development work of the LDS team	33	89.2%
Providing access to Department of Education Science documents and forms	32	86.5%
Providing access to educational journals and research	29	78.4%
Providing access to 'expert peers' or 'mentors'	29	78.4%
Providing a forum for school leaders to engage in protected or private dialog on educational matters	27	73.0%
Developing a library of templates for school policies documents	27	73.0%
Facilitating the processing of administrative requirements such as travel expenses etc.	26	70.3%
Supporting the development of professional development portfolios	24	64.9%
($n = 37$)		

Table 21: Objectives for the development of a VLE for school leadership development rated 'important' or 'very important' by LDS team

Ranked as important or very important by 89.2% of respondents, a priority role identified for an online environment is to provide school leaders with a forum to discuss issues with leaders in other schools. Using the VLE to support reflective practice as a professional development activity is also identified as a priority. Although the questionnaire does not include a definition of 'reflective practice', the concept does feature periodically in LDS programme literature. For example, both a reflective diary and a reflective portfolio are

identified as key supports in the programme literature for the *Misneach* programme (Leadership Development for Schools, 2003b).

Respondents were also asked – by way of an open-ended question – to identify what they regarded as being the most significant contribution that a virtual learning environment can make to the professional development of school leaders. These responses were coded and analysed and the data are presented in Table 22 below.

Contribution made by a virtual learning environment to the professional development of school leaders*	***Number***	***Percent***
Supporting communication with peers, including supporting sharing of ideas and 'brainstorming'	21	56.7%
Providing access to educational research, knowledge and ideas	12	33.0%
Reducing the professional isolation of school leaders	6	16.7%
Providing access to educational texts and materials, including materials prepared by LDS	5	13.3%
Supporting the development of a community of professional learners	4	10.0%
Supporting or 'triggering' reflective practice	4	10.0%
Supporting mentoring as part of the professional development process	2	6.7%
Acting as a portal or gateway to key online resources, such as email or libraries	1	3.3%
Support the development of ICT skills for school leaders	1	3.3%
No response to question	7	18.9%
Non-specific statements such as: 'providing a secure supportive environment' and 'key element of a blended learning model'.	6	16.7%

**Some respondents indicated more than one contribution of a VLE to professional development within a single response (n = 37)*

Table 22: Contributions made by a virtual learning environment to the professional development of school leaders identified by LDS team members

Responses coded as 'supporting communication with peers, "brainstorming", and the sharing of ideas' is identified by 56.7% of respondents as the most significant contribution of a VLE. Other areas identified as significant are: providing access to educational research (33.0%), and reducing the professional isolation of school leaders (16.7%). Notably, a significant percentage of responses (16.7%) were coded as being of a general or non-specific nature. These responses include generic statements such as 'contributing to a blended learning model' and providing a secure supportive environment'. These particular responses were considered to provide little insight into how the respondent viewed the potential of a VLE to support professional development.

6.3 Patterns of User Access to LDS *LIVE*

The structure of LDS *LIVE* is characterised by the establishment of a number of online communities. Ostensibly, these communities reflect the organisational and programme structure of LDS. Some communities are restricted for use by the fulltime LDS team or by the *Internal Management Committee* (IMC),[47] for example. Other communities are intended to service the development and delivery of the various professional learning programmes. At the time of examination, the earliest established community was in place for 319 days. Also at this time, and allowing for the removal of test and administrator accounts, the number of individual users within the VLE was estimated at 1322.

LDS* LIVE *Structure: Online Communities

Following the appointment of a system administrator and initial training for the LDS team, a number of online communities within the virtual learning environment were established. Within the *Fronter*® system, a community – with an 'owner' and to which different users can be granted access – is referred to as a 'room'. On 1 June 2007, 36 discrete rooms were in existence. For the purposes of this research, access was granted to 33 online communities. The 'Fronter Control Panel' (for central administration), the LDS Fulltime Team Room, and the LDS Internal Management Committee community were not made available for analysis. One community – LDS Forbairt Post-Primary Team – did not register any visits at the time of data gathering and was excluded from the analysis. The online community 'LDS ICT' was inactive for 157 days at the time of data gathering as was excluded from the analysis. The forum contained five users, three of whom had visited the community. Consequently, 31 online communities were examined.

---

[47] The LDS initiative is managed by an Internal Management Committee (IMC), which includes representatives of the Department of Education & Science (DES).

LDS LIVE Organisational Structure	
Corridor(Organisational Unit)	*Room (Community)*
Administration	Fronter Control Panel*
Management	LDS Internal Management Committee*
LDS Community	LDS Live Help Room Leadership Today Post Primary School Primary School
LDS Cothú	LDS Cothú Team Room
LDS DEIS	LDS DEIS
LDS Forbairt	LDS Forbairt Post Primary Team* LDS Forbairt 06-07 Primary Review LDS Forbairt 06-08 Post-Primary Review LDS Forbairt 06-08 Post-Primary LDS Forbairt Primary Team LDS Forbairt Primary Participants
LDS Middle Leadership	LDS Middle Management
LDS Misneach	LDS Misneach 04-06 Post-Primary LDS Misneach 05 - 07 Primary LDS Misneach 05 - 07 Post-Primary LDS Misneach 06 - 08 Primary LDS Misneach 06 - 08 Post-Primary LDS Misneach Post Primary Team LDS Misneach Primary Participants LDS Misneach Post-Primary Participants LDS Misneach Primary Team
LDS Spreagadh	LDS Spreagadh Team (Primary)
LDS Staff	LDS Staff Room LDS Full-time Team Room*
LDS Tánaiste	LDS Tánaiste 04-06 Post Primary Nascú LDS Tánaiste 05-07 Post Primary LDS Tánaiste 06 - 07 Primary LDS Tánaiste 06 - 08 Post Primary LDS Tánaiste Post Primary Participants LDS Tánaiste Post Primary Team LDS Tánaiste Primary Participants LDS Tánaiste Primary Team
LDS Virtual Learning Networks	LDS ICT*
*Not included in statistical analysis	

Table 23: LDS *LIVE* organisational structure of online communities

Each room or online community was established to fulfil a different purpose or to service a different cohort of LDS programme participants. Some of the communities were

administrative, while others were limited to the full-time LDS team or to members of the initiative's Internal Management Committee. Table 23 above details the organisational structure of 'rooms' within the VLE. As noted, the *Fronter*® system uses the metaphor of 'corridors' for organisational units and 'rooms' to represent online communities. In general, there are online communities to cater for the various LDS professional development programmes. These in turn are divided on the basis of sector (primary or post-primary) and to cater for different cohorts of programme participants.

With respect to the selected online communities, each was examined to determine:

- The number of users registered in the community;
- The number of users who have visited ('logged on') to the community;
- The total number of visits to the community by users;
- The number of visits accounted for by members of the LDS team; and
- The number of discussion forums established within each community.

An overview of the data gathered in respect of each online community is presented Table 24 below. Analysis of patterns of activity within the virtual learning environment is supported by the identification of categories of grouped communities. Communities can, for example, be categorised with respect to the constituent group they are established to support. In the case at hand, three categories are used: 'Team' (established to support the work of LDS team members); 'Group' (identifying a community established to engage with a particular continuing professional learning programme), and 'Community' (indicating an online community available to all users of the virtual learning environment).

Code	Grouped Community Category	Community	*Number of users in the community*	*Number of users who have visited the community*	*Percentage of users who have visited the community*	*Percentage of users visiting community more than 5 times*	*Total number of visits to community*	*Visits by LDS team as percentage of total number of visits to community*	*Number of discussion forums within community*
T/PP	Team/Post-Primary	LDS Misneach Post-Primary Team	73	40	54.8%	30.1%	1511	97.2%	5
T/PP	Team/Post-Primary	LDS Tánaiste Post-Primary Team	34	13	38.2%	11.8%	110	89.1%	2
T/P&PP	Team/Primary & Post-Primary	LDS Staff Room	82	69	84.1%	70.7%	2593	79.6%	9
T/P	Team/Primary	LDS Spreagadh Team	69	14	20.3%	2.9%	38	65.8%	0
T/P	Team/Primary	LDS Tánaiste Primary Team	47	24	51.1%	25.5%	238	72.7%	1
T/P	Team/Primary	LDS Forbairt Primary Team	58	16	27.6%	25.9%	592	91.0%	2
T/P	Team/Primary	LDS Misneach Primary Team	53	33	62.3%	34.0%	658	85.9%	5
G/PP	Group/Post-Primary	Post-Primary School	138	44	31.9%	5.8%	159	76.1%	0
G/PP	Group/Post-Primary	Primary School	83	39	47.0%	4.8%	135	90.4%	0
G/PP	Group/Post-Primary	LDS Forbairt 06-08 PP Review	32	13	40.6%	15.6%	88	95.5%	1
G/PP	Group/Post-Primary	LDS Forbairt 06-08 PP	173	58	33.5%	15.0%	612	18.8%	2
G/PP	Group/Post-Primary	LDS Misneach 04-06 PP	48	18	37.5%	12.5%	221	78.3%	2
G/PP	Group/Post-Primary	LDS Misneach 05-07 PP	56	26	46.4%	26.8%	318	43.1%	8
G/PP	Group/Post-Primary	LDS Misneach 06-08 PP	104	81	77.9%	52.9%	1238	42.7%	2
G/PP	Group/Post-Primary	LDS Misneach PP Participants	194	69	35.6%	6.7%	548	72.6%	1
G/PP	Group/Post-Primary	LDS Middle Management	158	29	18.4%	3.8%	208	69.7%	0
G/PP	Group/Post-Primary	LDS Tánaiste 04-06 PP Nascú	42	17	40.5%	19.0%	198	81.3%	1
G/PP	Group/Post-Primary	LDS Tánaiste 05-07 PP	118	9	7.6%	4.2%	70	94.3%	1
G/PP	Group/Post-Primary	LDS Tánaiste 06-08 PP	96	21	21.9%	9.4%	153	60.8%	1
G/PP	Group/Post-Primary	LDS Tánaiste PP Participants	218	13	6.0%	0.9%	55	67.3%	1
G/P&PP/L	Group/Primary & Post-Primary/Limited	LDS Cothú Participants	112	35	31.3%	7.1%	148	51.4%	1
G/P&PP/L	Group/Primary & Post-Primary/Limited	LDS DEIS	83	30	36.1%	12.0%	261	94.6%	0
G/P	Group/Primary	LDS Forbairt 06-07 P Review	42	17	40.5%	2.4%	42	76.2%	2
G/P	Group/Primary	LDS Misneach 05-07 P	207	164	79.2%	62.8%	2911	30.0%	2
G/P	Group/Primary	LDS Misneach 06-08 P	258	197	76.4%	46.9%	1835	13.0%	0
G/P	Group/Primary	LDS Misneach P Participants	455	24	5.3%	0.7%	84	31.0%	0
G/P	Group/Primary	LDS Tánaiste 06-07 P	186	140	75.3%	52.7%	1543	19.8%	2
G/P	Group/Primary	LDS Tánaiste P Participants	71	15	21.1%	4.2%	52	76.9%	1
G/P	Group/Primary	LDS Forbairt P Participants	297	14	4.7%	3.0%	148	89.2%	4
C/P&PP	Community/Primary & Post-Primary	Leadership Today	1315	105	8.0%	1.7%	534	62.9%	1
C/P&PP	Community/Primary & Post-Primary	LDS LIVE Help Room	1322	359	27.2%	7.3%	2278	38.9%	1
								Total number of forums:	58

Notes:
'P' denotes that the community or programme includes practitioners from the primary school sector.
'PP' denotes that the community or programme includes practitioners from the post-primary school sector.
'L' denotes that the community or programme services a relatively small number of schools within special categories.

Table 24: Details of online communities established within LDS *LIVE*

Online communities can be further differentiated with regard to sector. A small number of communities include participates from both the primary and post-primary sectors. However, it is usual for communities to support practitioners from only one sector.

Consequently, online communities can be categorised with respect to their association with users from primary schools, post-primary schools, or both. Finally, there are a small number of communities established to service schools with special designation. These communities are flagged as 'Limited' in that membership is targeted at participants working in these special category schools.

The data presented in Table 24 above is subject to further analysis later in this section. However, an initial analysis confirms that some communities have yet to be visited by a significant number so users. While participants are entered into a community by a system administrator and do not self-register, five communities (16.1%) have been visited by less that 10% of users. Looking at communities that have been visited by less that 50% of registered users, the data confirm that this is a feature of 23 (74.2%) of online communities. From another perspective, only five communities (16.1%) have been visited by more than 75% of registered users. It is noted that, at the time of data gathering, 30 of the 31 online communities had been visited by at least one user within the previous 28 days. Twenty-one communities had been visited within the previous seven days. The average number of days for which communities were established at the time of data gathering was approximately 219, with the highest and lowest number of days in operation being 319 and 62 respectively. In addition, of the 31 online communities, seven (25.5%) did not have an associated online discussion forum. A further eleven (34.5%) communities contained a single discussion forum. A total of 58 discussion forums were established across the 31 online communities.

Comparing LDS Team and Programme Participant Activity

While an overview of access patterns is indicative of the general use of the virtual learning environment, it cannot account for poorly designed communities or communities to which users have been designated in an arbitrary manner. For example, groups of users may have been added to a community as an administrative convenience, and some users may be unaware that they are members of a given community. Notwithstanding this caveat, the general practice within LDS *LIVE* is to design communities that are associated with a given programme, educational sector, or team focus. Consequently, communities are populated with users engaged with the programme or initiative that the community was established to support. Some communities which would ostensibly have a clearly delineated population – such as the LDS Staffroom – also contain users who are not formal members of the LDS

team. This is consistent with the practice of engaging practitioners from outside the formal team to contribute to discussion on issues and to assist in programme development.

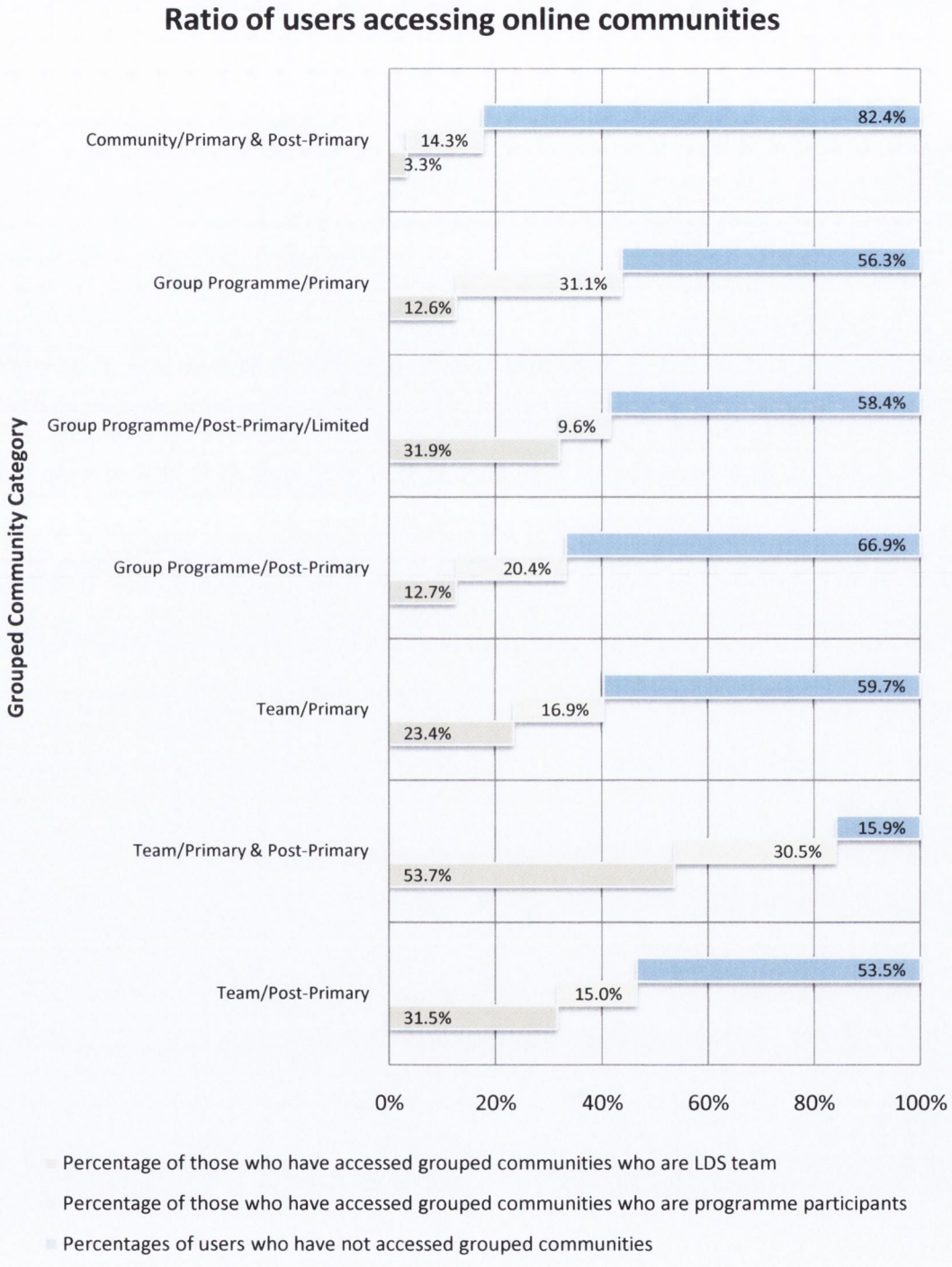

Figure 11: Ratio of users visiting online communities

With reference to Figure 11 above, an overview of patterns of activity across grouped communities can be gained. Expressed as an average percentage of all registered users in community within each grouped community category, the data indicate:

- The percentage of users visiting the grouped communities who are members of the LDS team;
- The percentage of users visiting the grouped communities who are programme participants; and
- The percentage of users, including both LDS team members and programme participants, who have not visited communities within the category.

It is apparent that within communities established to support group programmes, at both primary and post primary levels, there are significant numbers of registered users who have yet to access an online community. Within the communities established to support continuing professional learning programme for the post-primary sector, an average percentage of 66.9% of users have yet to access these communities. Similarly, approximately 59.7% of registered users have not visited communities with the *Group Programme/Post-Primary* category. The percentage of users who have not visited communities established to cater for all users of the virtual learning environment is particularly high at 82.4%. Of those who have visited online communities, the percentage of programme participants who have communities associated with the LDS team at post-primary level is 30.5%. This percentage is higher that might be anticipated, but reflects the practice of including practitioners who are not members of the formal LDS team within communities.

Different patterns of access to the online environment are suggested by the data presented in Figure 12 below. The data highlight that, across all categories of online community, LDS team members account for the majority of visits. In some instances, the disparity is considerable. For example, within the *Community/Primary & Post-Primary* category, LDS team members constitute approximately 3.3% of users accessing the communities. However, as detailed in Figure 12, they account for 50.9% of all visits. Other ratios of note are evident within the *Group Programme/Post-Primary* and *Group Programme/Primary* categories. Within the primary category, LDS team members account for approximately 12.6% of users, yet that are responsible for approximately 53.3% of all visits. Similarly, LDS team members represent 12.7& of users within the post-primary programmes category. In this instance, they account for 66.7% of all -visits.

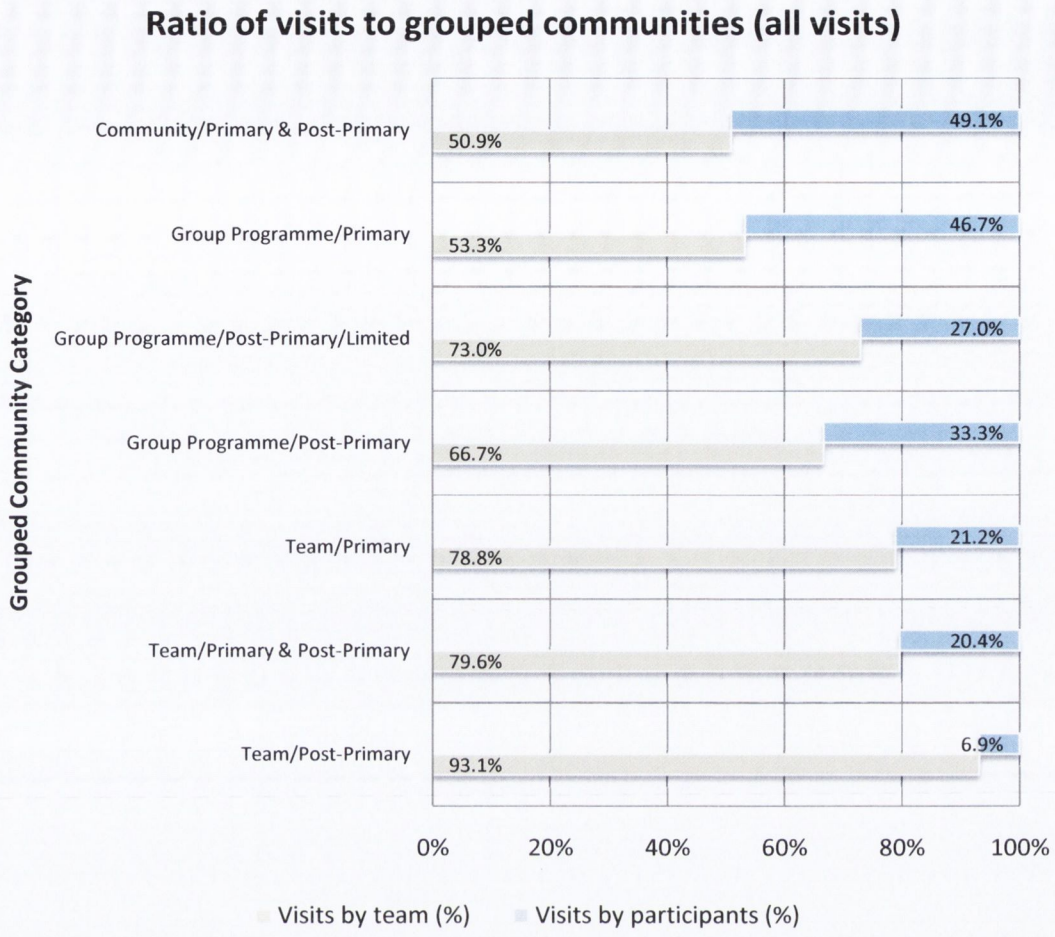

Figure 12: Ratio of visits to grouped communities (all visits)

Similar ratios are evident when the data are examined to identify participants and team members who have visited communities on more than five occasions. The average parentages of participants and team members visiting communities within relevant categories are detailed in Figure 13. Together, these data confirm that, across all categories of online community, the majority of access to the virtual learning environment is accounted for by members of the LDS team. While this pattern of activity would be anticipated in communities associated with the work of the LDS team, engaging participants in online communities of practices is a recurring objective of the virtual learning environment.

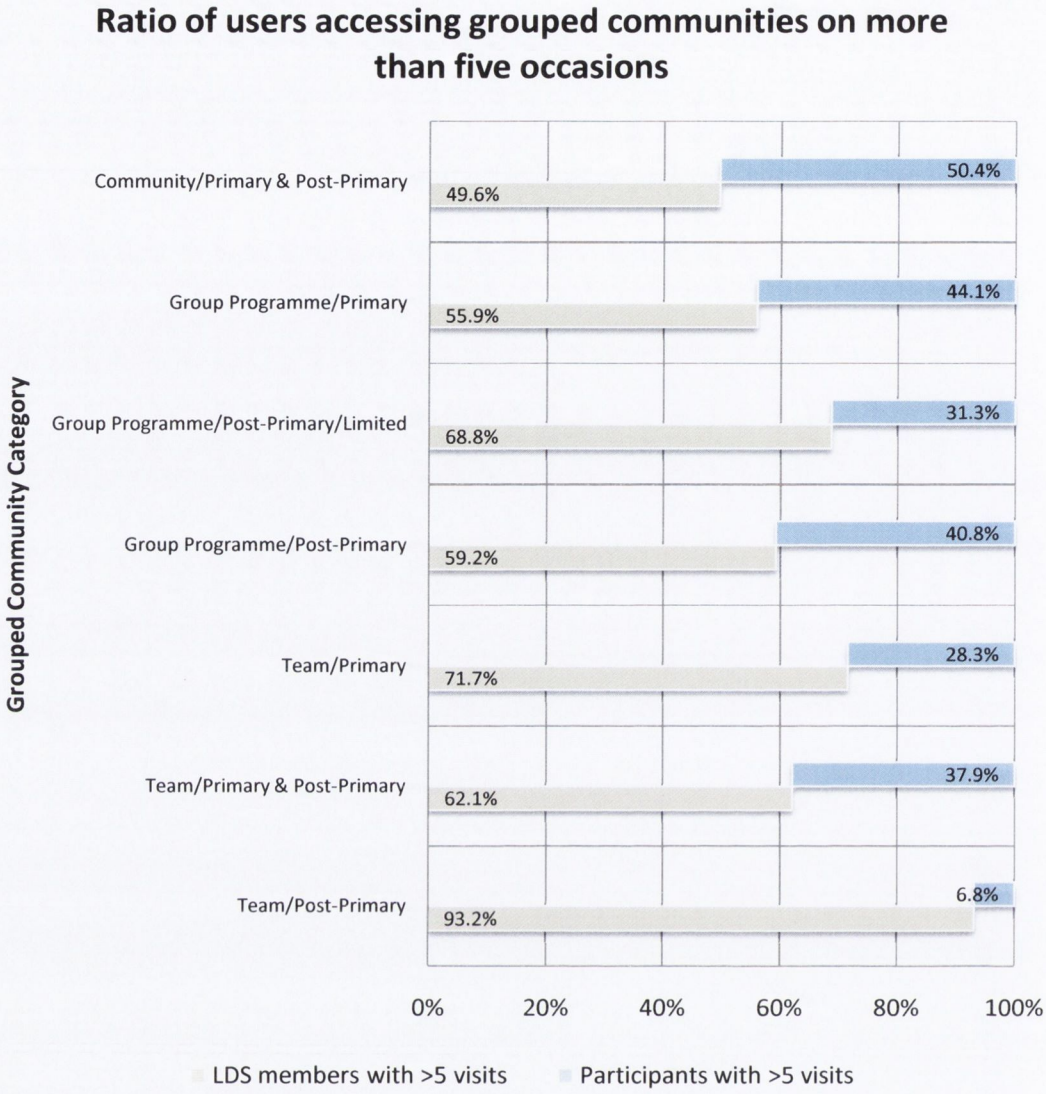

Figure 13: Ratio of users visiting online communities on more than five occasions

When these data are considered in conjunction with the issues arising in the implementation of the virtual learning environment, detailed in Chapter Five, the matter of participant motivation to access the online environment comes to the fore. An additional factor to take into account is the availability of online resources. Across all communities examined, there were approximately 1652 documents available within the virtual learning environment. These documents, which included text documents, multimedia files, and presentation materials, are very varied in nature. Documents such as copies of presentations and worksheets are typically made available online to participants. Also, documents such as sample school policies are submitted, usually in support of a programme module. Multimedia files include those freely available on the internet as well as video commissioned

by LDS. Other document types include online diaries ('blogs') and summaries of books and journal articles.

No data were available to identify the frequency with which a given document was accessed. Consequently, it is not possible to infer how these documents enhanced the learning experience of participants. However, it is reasonable to conclude that the availability of programme-related material would constitute a motivating factor for accessing the online environment. During workshops, it is common practice for presenters to indicate that supplementary materials are available within the relevant online community. Participants are also encouraged to provide feedback on their experiences during the workshop or programme via online discussion forums. Generally, these discussion forums are initiated by the programme presenters of coordinators. Programme coordinators also used SMS messages to encourage participants to engage with online discussions. These factors – access to online materials and opportunities to contribute to online discussions – may be regarded as basic motivating elements.

However, as confirmed here, within online communities established to support CPD programmes, significant numbers of participants have yet to access the facility. Furthermore, the bulk of visits to communities developed for the various programmes are made by LDS team members. This analysis is sustained when account is taken of user activity as part of participant training. As noted earlier, there were significant efforts on the part of LDS team members to engage participants in online discussion. Concerns relating to the levels of user access to the virtual learning environment were discussed frequently by team members. In response to these challenges, and as detailed in Chapter Five, there has been a noticeable repositioning of the role of the virtual learning environment.

***Online Discussion Forums within LDS* LIVE**

Within the online communities comprising LDS *LIVE* there are a number of discussion forums. Together with providing access to resource and support materials, the forums support communication between practitioners. Within the continuing professional learning framework, an opportunity to engage with other school leaders is a recurring theme. This engagement may be by way of a mentoring relationship or a general discussion on a topic of interest. Some interactions may be responses to requests for information or guidance. Where

these discussions are committed to a medium, they present an opportunity for researchers and for programme developers to identify instances on knowledge construction. The development of professional knowledge is considered a core objective of continuing professional learning interventions.

While statistics on user access rates provide indications of the development of online communities of practice, they are insufficient to allow comment on the nature of the communities. Further analysis is supported with reference to the data presented in Table 25 below. The table details the characteristics of discussion forums within a number of online communities selected for further analysis. Although 58 discussion forums can be identified within the online communities, all forums do not represent meaningful discussion or engagement. Consequently, an examination of the forums established the following:

- Of the 58 forums, 30 contained three or fewer postings;
- Of the 58 forums, 28 contained less that 150 words;
- Forums with few postings were characterised by contributions from facilitators seeking to encourage participants to contribute to the forum, sometimes without success. The inclusion of these forums in a detailed examination of social presence and cognitive presence would distort the analysis as these initial contributions will be largely of a 'triggering' or exploratory nature.
- Five forums were categorised as having being established to test the use of the system. Typically, contributions here consist of one or two words such 'Hi!', 'Hello' and 'Just testing!'
- There was a degree of duplication in the topics addressed within the forums. For example, twelve of the forums were established to elicit participant feedback on programmes they had recently attended and, in some instances, to identify items for inclusion on future programmes.
- The online help forum, which had the highest number of contributions, was not included in the inter-rater reliability analysis due to the nature of the contributions. Postings to the

LDS LIVE Help forum ('FAQs') were primarily of an advisory nature and do not lend themselves to analysis with respect to social presence and cognitive presence.

Forum topic/title	*Number of contributions*	*Unique contributors*	*Highest individual contributions*	*Number of words in discussion*	*Contributions by fulltime LDS team members*	*Contributions by part-time LDS team members*	*Contributions by programme participants*	*Percentage of contributions by LDS team members*
Interview and Selection*	24	Anon.	Anon.	375	Anon.	Anon.	Anon.	n/a
Role of the SENO in Special Schools*	15	Anon.	Anon.	256	Anon.	Anon.	Anon.	n/a
Misneach Residential 5 – Content*	21	Anon.	Anon.	448	Anon.	Anon.	Anon.	n/a
The Role of the Deputy Principal**	40	36	3	666	2	0	38	5.0%
Keeping the conversations going!**	21	8	2	955	1	1	19	9.5%
WSE, School Self-Evaluation and School Improvement	33	23	4	6838	16	13	4	87.9%
Misneach Residential 5 - Timing	14	10	3	1012	1	12	1	92.9%
Looking at Misneach Primary	14	5	6	1557	6	8	0	100.0%
Transfer of students from Primary to Post Primary	13	6	6	1418	7	5	1	92.3%
Christmas Coffee	11	9	2	587	3	4	4	63.6%
Forbairt Primary Module 1 Review	11	10	2	2010	5	2	4	63.6%
Leading ICT	9	7	3	887	1	1	7	22.2%
Assessment and Learning	8	7	2	637	2	1	5	37.5%
Misneach 5	7	6	2	366	2	1	4	42.9%
The Emotionally Intelligent School	7	4	3	654	3	3	1	85.7%
What is Moral Purpose?	6	5	2	953	1	1	4	33.3%
PPR Review	3	3	1	670	1	0	2	33.3%
Totals for all forums (n = 17)	257	n/a	n/a	20289	n/a	n/a	n/a	n/a

Notes:
** Three discussion forums were conducted anonymously. The system record confirms that these forums were established by a member of the LDS team.*
*** Two of the above discussion forums were established as part of an introduction to LDS* LIVE. *All contributions to these forums were made on a single day.*
**

Table 25: Details of contributions of online discussion forums

These considerations lead to the identification of seventeen online discussion forums for detailed analysis. The data comprised approximately 20,289 words contained within 257

posted messages. Also of note is that of the seventeen forums deemed suitable for further analysis, sixteen (94%) were initiated by members LDS team members.

Of these seventeen discussion forums, three were anonymous. The period between the opening of a forum and the latest submission ranged from 43 to 2 days. It difficult to draw any firm conclusions from the period of time a forum remains open. The creator of an anonymous 'brainstorming' forum may set a period of time during which contributions may be made. The forum owner may also configure the forum so that it always remains open. In addition, forum contributions may all be entered during one day. For example, system data relating to the forum titled 'The Role of the Deputy Principal' indicate that the period between the first and last contributions was fifteen days. Examining the forum reveals, however, that the initial posting was submitted by the forum owner in preparation for a training session. All participant comments were submitted on a single day as part of the training programme.

The topics addressed within each forum are summarised in Table 26 below. The only general conclusion that may be drawn is that, with exceptions noted, the discussion was conducted over a number of days. This observation does not suggest that the time between initial and final postings is proportionate to the effectiveness of the forum in supporting learning.

Some observations on contributions to the discussion forums can also be made. Accounting for three anonymous forums and for two forums where participants were obligated to make a contribution, six forums contain less than six contributions. However, it should be noted that in some instances these forums actually contained a higher word count than a forum with eleven contributions. It is also noted that in an additional six forums which contained between eleven and 33 contributions, the majority of comments are contributed by members of the LDS team. Also, of the seventeen forums detailed in Table 26 below, sixteen were initiated by a member of the LDS team.

Community	**Forum topic/title**	**Description**	*Initiated by LDS team member (Yes/No)?*
LDS Tánaiste 06-07 Primary	The Role of the Deputy Principal	Established as part of a training session. Invitation to share views on the role of the deputy principal in primary schools.	Yes
LDS Staff Room	WSE, School Self-Evaluation and School Improvement	Forums established to generate discussion on Whole School Evaluation and self-evaluation.	Yes
LDS Misneach 05-07 Primary	Interview and Selection	Anonymous forum. 'Brainstorming' session to generate interview questions for teacher selection	Yes
LDS Misneach Primary Team	Misneach Residential 5 - Timing	Anonymous forum requesting feedback from LDS team members on a recent CPD session	Yes
LDS Tánaiste 06-07 Primary	Keeping the conversations going!	Established as part of a training session. Invitation to highlight areas of concern or of interest.	Yes
LDS Cothú Participants	Role of the SENO in Special Schools	Anonymous forum inviting discussion on the role of the Special Education Needs Organiser	Yes
LDS Misneach Primary Team	Misneach Residential 5 - Content	Requesting feedback from LDS team members on a recent CPD session	Yes
LDS Misneach Primary Team	Looking at Misneach Primary	Requesting contributions from LDS team members on a future planned CPD session	Yes
Leadership Today	Transfer of students from Primary to Post Primary	Reference to a recent report on transfer of students from primary to post-primary school. Observations and comments invited	Yes
LDS Misneach 06-08 Post-Primary	Christmas Coffee	Invitation to suggests activities for the Christmas break. Invitation to suggests books, films or activities.	Yes
LDS Forbairt Primary Team	Forbairt Primary Module 1 Review	Requesting feedback from LDS team members on a recent CPD session.	Yes
LDS Misneach 05-07 Post-Primary	Leading ICT	Reference to a recent presentation on ICT in schools. Invitation to poses questions to the presenter.	Yes
LDS Misneach 05-07 Primary	Assessment and Learning	Reference to a recent report on assessment in primary schools. Observations and discussion invited	Yes
LDS Misneach 05-07 Primary	Misneach 5	Invitation to participants to comment on a recent CPD session and to identify areas for future modules	Yes
LDS Misneach Post-Primary Team	The Emotionally Intelligent School	Reference to a draft document on Emotional Intelligence and the development of a CPD module in this area	Yes
LDS Forbairt Primary Participants	What is Moral Purpose?	Discussion on the concept of 'moral purpose' arising from an action learning network meeting.	No
LDS Forbairt Primary Team	PPR Review	Reference to a document on Personal and Professional Reflection. Invitation to comment on the documents and possible use in a CPD programme.	Yes

Table 26: Overview of discussion forums identified for content analysis

While the number of contributions made to a discussion form is indicative of online activity, it is necessary to evaluate the nature of the contributions and interactions within the forum. For example, consider the following contributions to the discussion forum on 'The Role of the Deputy Principal':

> This is a first. This computer room has computers that actually work.
>
> Contributor: RDP-ADCH
>
> The last two days in [redacted] has gained us some weight - two dinners - and has upskilled us hopefully.
>
> Contributor: RDP-OELL
>
> [W]ell done to [LDS] for providing us with this opportunity
>
> Contributor: RDP-OBT
>
> It was lovely to meet you in [redacted] in December. I hope everything is going well for you and you had a good Christmas. All the best for 2007!
>
> Contributor: RDP-UDOS
>
> Learning the role is very enjoyable in [redacted].
>
> Contributor: RDP-ARYA

Although these and similar contributions may not immediately suggest a contribution to professional learning, the development of rapport and community must be considered. These messages appear alongside contributions such as the following sequence:

> [D]eputy principals are in urgent need of release days to work [with] principal or [colleagues] with an overload of classroom work how are we suppose[d] to talk to other staff members about curriculum or policies that we are in charge of [?]
>
> Contributor: RDP-RI B
>
> I agree. It's difficult to find adequate time in any school to discuss matters with the Principal but in a very large school it is nearly impossible. I feel [deputy principals] could share the responsibility and make a much greater contribution if release days became an option. We live in hope!
>
> Contributor: RDP-UDOS

> The role of the [deputy principal] depends on many things, all particular to the individual school. Possibly the most significant of these is the culture of the school - the "social glue" - How we do things around here!
>
> Contributor: RDP-ER C

In order to gain an insight into the significance of these within an online community, content analysis techniques such as those detailed in Chapter Four are required.

6.4 Discussion Forum Content Analysis

Examining the content of online discussion forums for evidence of knowledge construction and learning presents a significant challeng. A number of well-established techniques are available to the researcher, some of which were detailed in Chapter Four. In all instances, the difficulty in balancing reliability of interpretation with the development of usable data is foremost. In examining the selected discussion forums in the present study, two models were applied at different stages of the research. The initial examination utilised the Interaction Analysis Model (Gunawardena et al., 1997). The purpose of this analysis was to provide preliminary insights into the nature of knowledge construction within the discussion forums. The findings from this initial analysis would inform a second, more detailed analysis. The preliminary analysis would also indicate the appropriateness of the Interaction Analysis Model to the case at hand. Subsequently, the Community of Enquiry Model[48] was selected for the second analysis. With the initial content analysis suggesting relatively low levels of knowledge construction, the Community of Enquiry Model was considered appropriate as it also included an analysis of social presence within a community. While the construction of professional knowledge is associated with effective communities of practice, these communities also have a social dimension. Therefore, the Community of Enquiry Model provides a more comprehensive view of the nature of online communities within the virtual learning environment.

---

[48] In the original paper, the model is referred to as the *Community of Inquiry*. However, as preferred in the European literature, the model with be referred to as the *Community of Enquiry* in this report.

Analysis I: Interaction Analysis Model

Data on Knowledge Construction

An initial examination of online discussions was conducted using the Interaction Analysis Model (IAM). This model is detailed in Chapter 4.2, page 128. Each of the 257 posts within the forums was examined with respect to the IAM. A message was coded to indicate the knowledge phase and sub-phase present. This initial analysis was not examined for inter-rater agreement. The number of posts categorised within the primary knowledge phases are presented in Figure 14 below.

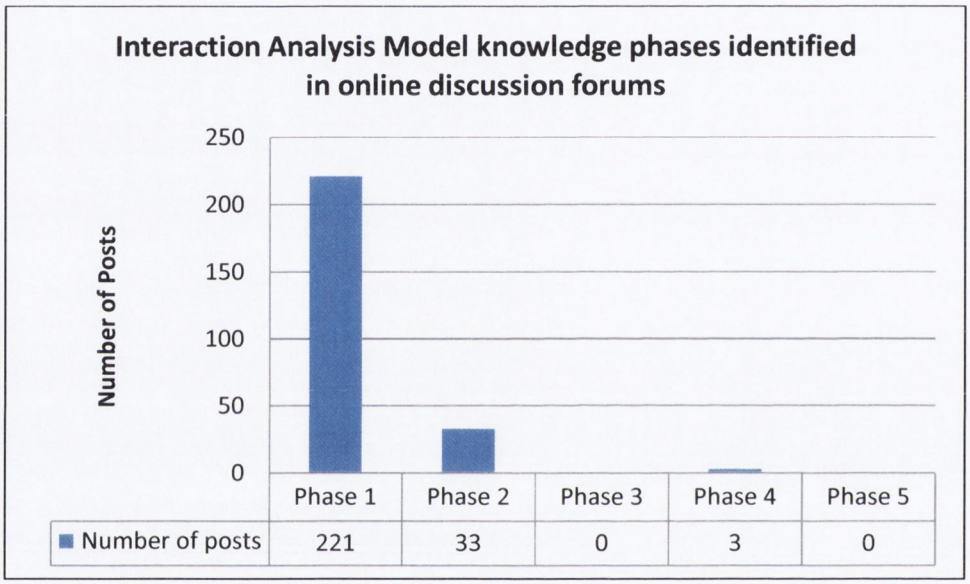

Figure 14: Interaction Analysis Model knowledge phases identified in online discussion forums

Of the 257 posts examined, 221 (86%) were classified as Phase 1. This knowledge phase is characterised by the contributors sharing and comparing information. Examples include: issuing statements or opinions; defining or describing a problem; and providing examples that corroborate the experiences of other contributors. A significantly smaller number of contributions – 33 posts, representing 12.8% of contributions examined – were classified as Phase II. In general, Phase II is characterised by the identification of areas of dissonance among ideas and concepts. Phase 2 knowledge construction would be suggested by: the identification of areas of disagreement; asking questions to clarify the extent or nature of any disagreement; and the introduction of supporting evidence to advance a stated position. The remaining three contributions (1.2% of posts examined) were coded as Phase 4. This phase is described by Gunawardena et al. as encompassing the 'co-construction of knowledge' and

indicated by the 'higher mental functions' of modifying and testing new knowledge (Gunawardena et al., 1997: 415).

Within these primary phases, a number of sub-phases are identified. For example, knowledge phase P1A is characterised by 'A statement of observation or opinion', while phase P5C suggests 'metacognitive statements by the participants illustrating their understanding that their knowledge or ways of thinking (cognitive schema) have changed as a result of the [online] interaction'. The analysis of these sub-phases is presented in Figure 15 below.

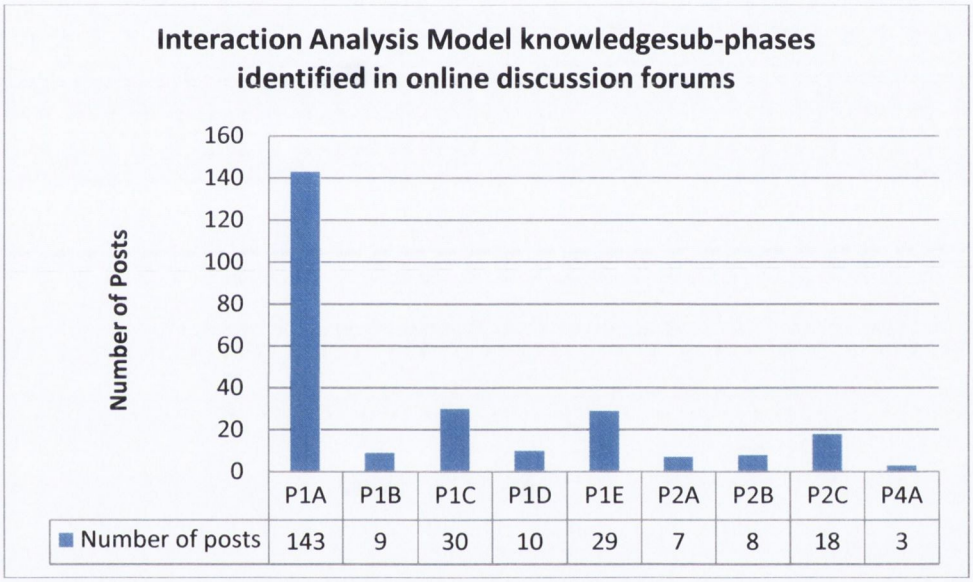

Figure 15: Interactive Analysis Model knowledge sub-phases identified in online discussion forums

These data allow a closer examination of the level of knowledge creation within Phase 1. As indicated, of the 221 contributions in this phase, 143 (64.7%) are categorised as Phase 1A (P1A). This suggests that most contributions to the discussion forms were classified as observations or statement of opinion. While these contributions are, arguably, necessary for the stimulation of debate, higher-order knowledge construction requires a significant number of contributors to operate within the upper phases of the model. In this case study, very limited numbers of contributions were classified as representing attempts to generate new knowledge or to test a proposed solution.

Although the data suggest that the level of knowledge construction is low, there are indications of contributions moving towards the treatment of pressing educational issues. Consider, for example, the following contributions:

> Many primary schools are anxious about how information is transferred and who will have access to it. With the Freedom of [Information] act people are a little nervous of giving written info. If this whole area was clarified (i.e. legal situation re- transfer of reports) I believe we could make far better use of such reports.
>
> *Community:* *Leadership Today*
>
> *Forum:* *Transfer of students from primary to post primary school*
>
> *Contributor code:* *TSP-OMAN*

> If we could get 3-5 people within a group to undertake it and develop a module [on Emotional Intelligence] around the results, without being intrusive or threatening I believe this is the way to go. Much of our discussion otherwise is not 'hard' enough ... and I think we do not get to the point of actually addressing change in people, either participants or ourselves.
>
> *Community:* *LDS Misneach Post-Primary Team*
>
> *Forum:* *The Emotionally Intelligent School*
>
> *Contributor code:* *EIS-IA F*

While these and similar comments are indicative of the complex issues under consideration, the forums do not indicate a move towards the integration of new thinking or the testing of hypotheses. The forums do indicate that there is a sharing of experience and the identification of common areas of concern among practitioners. This initial examination within the IAM framework suggests that the forums indicate the presence of appreciable levels of social cohesion within communities.

Analysis II: Community of Enquiry Model

To further explore the indications of social cohesion within the communities, together with a further analysis of cognitive activity, the Community of Enquiry Model was considered a suitable approach. Details of the model are discussed in Chapter 4.2, page 130. The framework has three key elements: social presence, cognitive presence, and teaching presence. In the present research, the content analysis did not address teaching presence. Although members of the LDS team are identified as programme developers and designers,

the initial analysis of the forums does not suggest that they adopted a formal position of tutor or teacher. The LDS programme model emphasises concepts of facilitation and collaboration. Therefore, there is not a formal delineation between tutor and learner within the forums. Each discussion forum contains contributions that are clearly designed to prompt discussion. However, there are insufficient indications that the forums, either in design or execution, would allow for a meaningful analysis of teacher presence. The model, and in particular the exemplar indicators of social presence and cognitive presence, remains useful to furthering understanding of activity within the forums.

Data arising from the analysis of social presence within the discussion forums is presented in Figure 16 below. Of all individual posts examined ($n = 257$), nineteen comments (7.4%) were coded as 'affective'. Affective responses reflect the existence of relationships within a community. These 'respectful and supportive socio-emotional responses' are also indicative of the existence of conditions necessary to support sustained discourse (Garrison, D. R. & Anderson, 2003: 52). Almost 67% ($n = 172$) of messages examined were coded as representing 'open communication'. A further 66 contributions, representing 25.7% of comments examined, were coded as representing 'cohesive communication'. The presence of a large proportion of contributions coded as 'open communication' suggests that the community exhibits identifiable social characteristics. Open communication implies trust and acceptance among the community members (Garrison, D. R. & Anderson, 2003). The existence of appreciable instances of open communication suggests that many participants engage in a considered and meaningful way to the progression of the online dialogue.

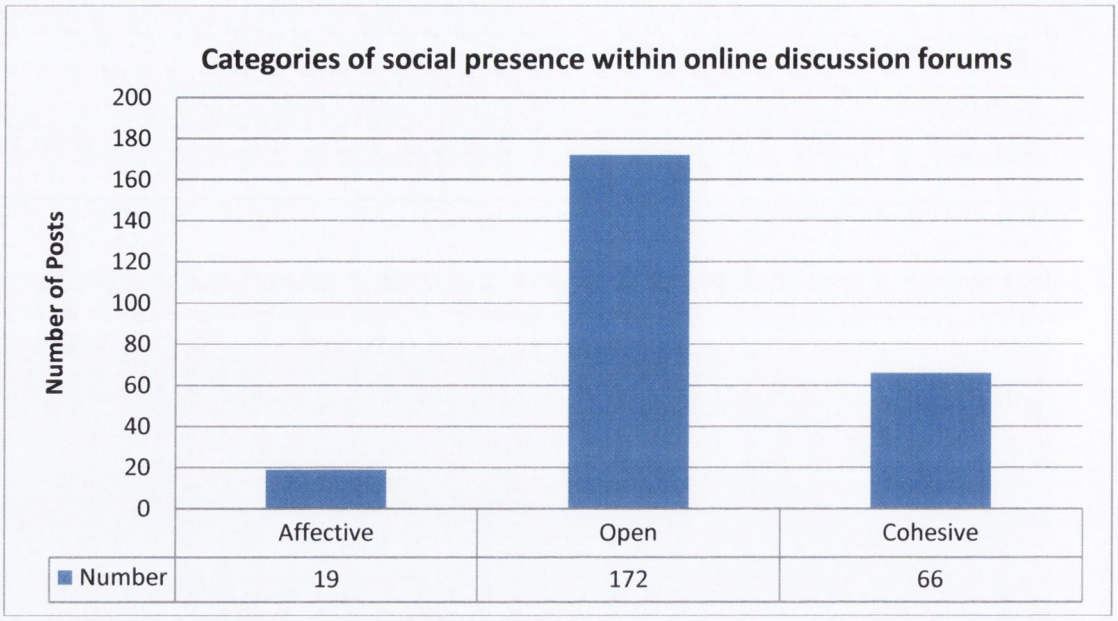

Figure 16: Categories of social presence within online discussion forums

The data also confirm the existence of lower, but significant, levels of cohesive communication. Cohesive communication is an important indicator of community identity and cohesion. Where learners identify themselves as members of a community, the quality of discourse and sustained enquiry will be enhanced (Garrison, D. R. & Anderson, 2003).

These data suggest that the online forums reflect the establishment of appreciable levels of social presence. Within an environment where effective learning is influenced by the social context, the establishment of social presence is a necessary precursor to learning. While the constituent communities of practice do not exist exclusively online, this analysis provides empirical support for the existence of community identity and cohesion among the cohort.

The development of group identity cannot be attributed solely to online activity. However, it is reasonable to suggest that the online communities would serve to reinforce relationships established at face-to-face sessions. Certainly, there are instances where contributions to forums make reference to work in the face-to-face components. For example:

> There was incredible energy around Misneach 4. The participants and our presenters were a credit to our profession. Well done. There was great support for a Misneach 5 & 6 with particular emphasis on Professional Issues, W.S.E, Conflict Management & Resolution,

Meeting the needs of children and parents of which English is not their native language, Promotion of the Irish Language in the non Gaelscoileanna, Personal Wellbeing, Staff Care, Training for [Boards of Management], support around the transition when the new Boards of [Management] come into effect at the end of 2007 and Time Management.

Community: *LDS Misneach 07-07 Primary*

Discussion Forum: *Misneach 5*

Contributor code: *MS5-EVAU*

Contributions such as this refer to specific continuing professional learning programmes – in this instance, the *Misneach* programme—as well as identifying challenges for future programmes.

Data on Cognitive Presence

The data were also examined to determine the extent of cognitive presence within the forums. Although social presence is posited as an essential aspect of the community, the core objective of the online community of practice is to support learning. Building on the foundation of social presence, participants will engage in sustained dialogue and discussion. This online dialogue evidences reflection and knowledge construction. Cognitive presence, then, is described as 'the intellectual environment that supports sustained critical discourse and higher-order knowledge acquisition and application' (Garrison, D. R. & Anderson, 2003: 55). The numbers of posts coded for the cognitive presence phases – setting, triggering event, interposition, exploration, integration, and resolution – are presented in Figure 17 below.

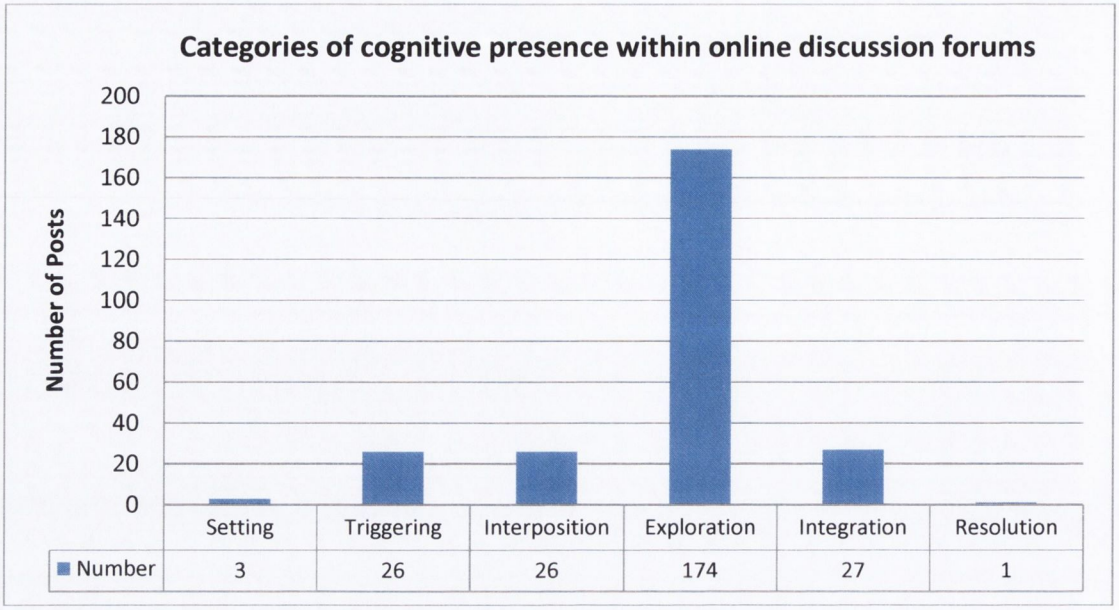

Figure 17: Categories of cognitive presence within online discussion forums

As noted, the categories of 'setting' and 'interposition' were added to the model following an initial analysis of the data. A small number of posts (n = 3 (1.2%)) were coded as 'setting'. The contributions represent posts that were invitations to comment, but did not identify a topic, problem, or issues around which to base the dialogue. These contributions can be considered attempts to stimulate online discussion. However, they are differentiated from 'triggering events' on the basis that these contributions also identified a substantive topic for discussion.

Within the remaining cognitive presence phases, the most prominent is that of 'exploration'. As a cognitive activity, exploration is characterised by contributions that seek information and ideas. They suggest inquisitiveness and the explorations of new concepts and ideas. This phase also incorporates 'brainstorming', discourse on relevant experiences, and debate on supporting or contradictory ideas (Garrison, D. R. & Anderson, 2003: 61-62). Of all contributions (n = 257), 174 (67.7%) were coded as representing the exploration phase.

The number of contributions coded as 'integration' and 'resolution' is significantly lower. These phases of the model are representative of higher-order thinking and knowledge construction. Integration means that the discourse moved towards the synthesis of various ideas. It incorporates the tentative proposal of solutions as well as the construction of

defensible rationales. Within the sample, 27 contributions (10.5%) were assigned to the integration category of the model. In the model, the resolution phase represents attempts to assess the viability of proposed solutions (Garrison, D. R. & Anderson, 2003: 62). This phase embodies deductive reasoning and the presentation and defences of proposed solutions. This phase also envisages the application of methods to test the effectiveness of the solution. However, only one contribution was assigned to this category.

6.5 Discussion

Population

The LDS team represent a distinctive research population within research on education. Studies on the use of virtual learning environments typically concentrate on the experiences of participants and learners within the environment. Empirical studies looking at the experiences and dispositions of programme designers do not feature in the literature. The singular nature of the research population enhances the contribution of the research to the field.

The LDS team represents more than a characteristic group of practitioners designing and delivering professional development programmes. The team has also produced a national policy document for submission to the OECD on the topic of school leadership development (Leadership Development for Schools, 2007). The document – *Improving School Leadership: Country Background Report-Ireland* – is a comprehensive overview of school leadership development in Ireland. However, the document is noteworthy in its treatment of online learning. With the exception of a reference to the development of an 'ICT component' for the Misneach programme (Leadership Development for Schools, 2007: 56), there is no reference to the development of a virtual learning environment contained in the document. Recalling that LDS *LIVE* has been in operation since August 2006, and that the online environment represents a significant financial investment, it is difficult to explain the lack of reference to the artefact. This omission is in contrast to the submissions made by, for example, representatives from England (Highan, Hopkins, & Ahtaridou, 2007), Northern Ireland (Fitzpatrick, 2007) and New Zealand (New Zealand Ministry of Education, 2007b).

Questionnaire Data

The role of the LDS team in the development of professional learning programmes is of particular significance for the introduction of a virtual learning environment. Given that the online environment is integrated into an existing professional development format, the experiences and dispositions of the LDS team will be significant. An additional consideration is access to, and use of, ICT. The responses to the questionnaire confirm that there are very high levels of access to laptop and personal computers as well as to internet access on the part of the team. Furthermore, the respondents reported that, in general, they undertake basic ICT-related tasks, such as responding to email messages and accessing websites, on a regular basis. These basic ICT skills are considered sufficient to allow a user to interact adequately with a virtual learning environment. This feature of the LDS team supports a suggestion that inadequate access to ICT or a lack of basic ICT skills are not a contributory factor in patterns of team access to the online environment. No similar claim can be made of programme participants. No data were gathered with respect to participant access to, and use of, ICT. Consequently, no strong claims can be made on the influence of use of ICT on participant access rates.

Data from the questionnaire suggests some prevailing attitudes towards supports for school leadership development. One of the most significant is the emphasis placed on providing opportunities for peer support and interaction. Responses from the LDS team consistently emphasised activities such as mentoring, networking, and peer support as effective school leadership development approaches. The high value placed on face-to-face and telephone communication with other practitioners can be contrasted with attitudes to the effectiveness of engagement within an online environment. For example, in response to one question, 91.9% of respondents rated 'discussing leadership issues with an experienced school leader' as an effective or very effective support. This compares with the 56.8% of responses that rated 'participation in an online or virtual environment with other school leaders' as effective. Similarly, when asked to identify effective professional development support for newly-appointed school leaders, 43.2% of responses indicated 'mentoring from experienced colleagues.' This figure can be compared to the 10.8% of responses that identified 'participation in online communities and learning environments.' When attention

is turned to the role of a VLE in leadership development, the emphasis is again on providing practitioners with a forum within which they can discuss issues with leaders in other schools.

While the present research cannot clearly identify the influence of these dispositions on the implementation of the virtual learning environment, there is clearly an emphasis on face to face interaction for supporting professional learning. The current programme structure is centred on face-to-face seminars and workshops, spread over periods of one- to two-years. As detailed in Chapter Five, the tendency appears to be to attempt to integrate the virtual learning environment into the existing organisational and learning structures.

LDS LIVE *User Statistics*

The analysis of user access statistics confirms that significant numbers of programme participants have yet to access the online environment. Across almost all of the online communities, the majority of logins are accounted for by members of the LDS team. This is particularly evident when access rates are examined with respect to online communities grouped according to cohort or programme type. A further consideration is to examine the number of participants who have accessed online communities on multiple occasions. This approach has the benefit of reducing the impact on the analysis of users who may have accessed the system only as part of initial training sessions. When access rates for team and programme participants are examined to identify those who have visited communities on more than five occasions, LDS team members continue to account for the bulk of activity.

While there are limitations to the conclusions that may be drawn from quantitative analyses of access rates, the data confirm that a key objective of engaging participants in online communities of practice has yet to be fully achieved. This finding confirms the preliminary assessment of the LDS team, outlined in Chapter Five, which prompted a repositioning of the virtual learning environment. Identifying factors influencing patterns of online activity is problematic. One consideration is the relationship between face-to-face communities and online communities. As detailed earlier, the organisation of communities within the virtual learning environment is based, almost exclusively, on the organisation of the various LDS programmes. Traditionally, these programmes were conducted entirely in face-to-face sessions. In addition, there is no established tradition of participants engaging in related continuing professional development activities outside the formal environment of

LDS workshops or seminars. (The notable exception is the development of action learning networks under the aegis of the Forbairt programme. However, there is no indication that these networks continue to a significant extent after the end of the related Forbairt programme.) Consequently, engagement in online communities of practice outside the timeframe and physical environment of a given programme would constitute a significant departure from established practice.

It is reasonable to suggest that there is a different set of motivating factors influencing LDS team members to use the online environment. In the first instance, the environment is used to coordinate the development of programme modules. The virtual learning environment acts as a repository of materials such as Microsoft® PowerPoint® presentations, worksheets, and programme notes. At planning meetings, a recurring topic of discussion was the implementation of the online environment and how the artefact might be used to support the CPD programme. Consequently, the promotion of the use of the virtual learning environment within individual programmes emerges as an imperative for team members.

Forum Content Analysis

The predominance of the LDS team within the environment is confirmed by analysis of the online discussion forums within the environment. Of the seventeen forums identified for further analysis, only one was established by a programme participant. However, it is noted that the topics addressed within the forums cover a wide range of leadership and educational issues.

These discussion forums were analysed for evidence of knowledge construction and social cohesion. These characteristics are fundamental to the development of effective communities of practice. What is evident – from both the initial analysis and the more in-depth examination within the Community of Enquiry model – is that there are low levels of knowledge construction in evidence. Indicators of higher-order cognitive activity – such as the construction of suitable solutions or explanations and critical assessment of proposed solutions – were not in evidence to a significant degree. However, the discussion forums were characterised by high levels of cognitive exploration. This is suggested by examples of brainstorming, exchanging narratives, and the offering of supporting ideas and experience. A further characteristic of the forums was the high levels of open communication and group

cohesion in evidence. These were evidenced by: high incidences of supportive and respectful interactions; references to the contributions of others; expressing appreciation; and the use of inclusive pronouns when referring to the community.

It may be concluded that the discussion forums, while displaying some of the attributes of communities of practice, have yet to support the knowledge construction and application of new learning that are necessary for continuing professional learning.

7 Implications and Conclusions

Although the concept of leadership may, at times, be considered to have indefinable qualities that shield it from rigorous analysis, identification of the need for effective leadership occurs in almost all areas of human activity. The capacity of a leader to influence the actions and dispositions of others is emphasised. However, exerting influence is only one aspect of leadership capacity. Leaders must be skilled in identifying when and where influence is to be exerted. They must also be skilled in selecting the appropriate form of leadership action to suit a given context. In essence, a core leadership skill is the capacity to assess a complex social situation from multiple perspectives.

The importance of school leadership to the achievement of educational objectives is highlighted. Accordingly, the establishment of programmes of continuing professional learning for school leaders is a feature of most systems of formal education. Despite the linking of effective leadership with effective schooling, there are few empirical studies on how school leadership can be enhanced. Nevertheless, there are a number of established approaches to school leadership development in evidence. One contemporary approach is the establishment of a virtual learning environment. The present research contributes to the knowledge base by addressing a number of key questions relating to the use of a virtual learning environment to support school leadership development. Although the emphasis is on using a virtual learning environment to support school leadership development, there are implications for professional learning in the wider context.

7.1 Reviewing the Research Objectives

A key objective of the research is to identify the issues of engaging school leaders in professional development initiatives that are supported by the use of a virtual learning environment. With reference to a case study, examining this principal research question identifies a number of elements that support the development of a model of CMC-supported professional learning. In identifying these elements, reference is made to a theoretical

context. This context identifies aspects of our current understanding of school leadership. The theoretical context also highlights approaches to continuing professional learning for school leadership development. More specifically, models of professional development for school leadership are identified and critiqued.

In identifying issues relating to the use of a virtual learning environment for school leadership development, reference was made to a relevant case study. The examination of the implementation of LDS *LIVE* highlighted the challenges in integrating a technological innovation into an existing professional development structure. The case study contributed to the identification of appropriate elements for the proposed model. The development of the theoretical context, examination of a case study, and the analysis of research data support the development of a conceptual model of CMC-supported professional learning.

7.2 Research Elements

Drawing together the findings from the theoretical context and the analysis of research data, a number of conclusions on the use of virtual learning environments to support continuing professional learning can be identified. References to a participatory action research case study are also important in highlighting issues relating to the use of virtual learning environments. The main research elements are revisited briefly here.

Theoretical Context

Efforts to improve our understanding of leadership have led to the development of a number of influential theories. For example, the leadership trait approach identifies characteristics such as tenacity, initiative, self-confidence, willingness to accept responsibility, capacity to tolerate stress and frustration, and the ability to influence the behaviour of others as being positively correlated with effective leadership. Other models, such as those derived within the behaviourist tradition, focus on examining the actions and behaviours of organisational leaders. More recent approaches highlight two related leadership areas: the capacity to identify an effective leadership strategy for a given context, and the framing of leadership decisions and actions with reference to moral and ethical considerations. For example, transformational leadership highlights issues of purpose and vision for an organisation. This approach is often associated with the development of high expectations within the organisation.

References to school leadership reflect many of the concepts and themes emerging from the wider field, most notably from commercial and industrial leadership. Therefore, the literature on school leadership includes variations on concepts such as transformational leadership, contingent leadership, moral leadership, and interpersonal leadership. While the legacy of many of these approaches may lie outside schooling, they have been recast to more fully address the requirements of educational leadership. The reformulation of these theories has resulted in a wide range of approaches being incorporated into the study and development of school leadership. Some approaches – such as transformational leadership, instructional leadership, distributed leadership, constructivist leadership, and systemic leadership – are now fully embedded in the glossary of school leadership.

Effective leadership is a function of knowledge, skills and experience. Although personal characteristics may be associated with leadership, there are also skills and competencies that may be developed through engagement with appropriate learning opportunities. This conclusion supports the development of continuing professional learning interventions and recognises that professional development has dimensions that are outside the narrow boundaries of personal traits and individual experience. A further consideration is that leadership action takes places in social contexts. These contexts may be complex, challenging, and uncertain, and what may prove to be effective action in one context may be inappropriate in another. What is considered effective leadership also changes over time and with respect to social and cultural expectations. Consequently, the professional knowledge of school leaders will include personal knowledge drawn from reflection on past experiences and cases. It is reference to professional knowledge incorporating schemata and cognitive maps which supports leadership action in uncertain contexts.

The need to identify and support school leaders is a prominent theme in educational provision. Expectations of school leaders are reflected both in the literature and in policy documents. One recent significant change is the emphasis on school improvement as a collective enterprise. Although the school principal is identified as having a regulatory responsibility, there is an expectation that collaborative planning serves as the foundation of school improvement. The development of communities of practice within schools, therefore, becomes a leadership priority.

Case Study

Establishing the related concepts of professional knowledge and leadership schemata as elements of a leadership framework suggests directions for school leadership development. Exploring the relationship between approaches to professional development and formal programmes of continuing professional learning entails an examination of characteristic leadership actions, systemic objectives, and contexts for leadership. It also requires an exploration of the theoretical underpinnings of professional learning. While these elements can be highlighted with reference to the literature, the research can also be furthered by analysis of an appropriate case study.

Although in Ireland the approach to continuing professional learning for school leadership is quite fragmented, the establishment of the LDS initiative represents an attempt to regularise provision. It also serves to recognise the rising importance of school leadership with respect to the agendas of both practitioners and policy developers. As with other initiatives, LDS documentation identifies the introduction of an online component as an important step in enhancing professional learning opportunities.

Further insights into the issues of engaging school leaders in continuing professional learning initiative that incorporate a virtual learning environment are gained by reference to a relevant case study. The development of a virtual learning environment as part of the *Leadership Development for Schools* initiative highlights the challenges of implementing an online environment in support of school leadership development. With reference to the development of LDS *LIVE*, three broad phases were identified.

Conceptual and Modelling Phase

At a very early stage of the development of the LDS initiative, the intention to establish an online component for the various continuing professional learning programmes was flagged. The influence of other organisations engaged in school leadership development programmes – most notably the UK *National College for School Leadership* – is evident in this area. During the period when the rationale and concept for the virtual learning environment were being developed, there are recurring references to the importance of online learning. While no supporting theories of professional learning are articulated, there is implicit acceptance that a virtual learning environment will support the various continuing

professional learning programmes offered by LDS. The virtual learning environment will enhance professional learning by supporting: communities of practice; mentoring and peer support; enhanced communication; reflective practice; portfolio development; access to resources; and continuing professional learning programme development.

This stage also saw the development of a conceptual model and prototype virtual learning environment. The model envisaged the development of a number of online learning spaces. These spaces are the key components of an extended electronic portfolio configuration. In practice, a learner would have access to private (reflective) spaces as well as areas of the environment which were shared. The prototype was developed to test the appropriateness of the model. However, the exercise highlighted the difficulties in introducing portfolio development as an integral element of continuing professional learning within the LDS programme.

Procurement and Implementation Phase

The objectives identified during the conceptual and modelling phases informed the specification for a virtual learning environment intended for wide-scale implementation. The specification was also broadened to include specific technical requirements of the virtual learning environment. Consequently, a virtual learning environment based on the *Fronter* learning platform was established. A defining characteristic of the environment is the establishment of online communities that mirror the face-to-face communities engaged in the various LDS programmes. Members of the LDS team received training on what was now referred to as LDS *LIVE*. In keeping with the design objectives of the artefact, this training focused on the technical skills required to establish and support online communities. Although it was anticipated that team members would act as online moderators and facilitators, no structured approach to preparation for this role was put in place. Programme participants also received an introduction to LDS *LIVE*. Again, the training focused on how to access the virtual learning environment via a web browser, how to make a contribution to a discussion forum, and how to use technologies such as email and instant messaging.

During this phase, members of the LDS team continued to discuss how best the virtual learning environment might be used. One consideration that was raised from time to time was the establishment of a programme to train LDS team members as online facilitators.

Although the development of online communities continued to be identified as a core objective for LDS *LIVE*, a suitable training programme has yet to be developed. Also during this period, members of the team continued to explore how other similar VLEs were used by other organisations. Concerted efforts were made by team members to encourage programme participants to engage with the virtual learning environment. There was an underlying concern that programme participants were not using the system. Consequently, online content such as multimedia presentations and online diaries by school leaders were developed in efforts to encourage greater participation.

Review and Repositioning Phase

One element of the present research is an evaluation of the virtual learning environment. This review was conducted in collaboration with members of the LDS team and, given this researcher's role as a team member, was guided by participatory action research principles. Parallel reviews were also undertaken by other members of the LDS team. These reviews did not employ qualitative analysis techniques and relied on statistics on patterns of user access to the virtual learning environment. These analyses also incorporated reports on experiences by LDS team members as they sought to incorporate LDS *LIVE* into their programmes. Although there was evidence to suggest that the LDS team – an identifiable community of practice within the overall LDS framework – was engaging with the system at an appreciable level, the various analyses, together with anecdotal reports, confirmed that there was limited use of LDS *LIVE* by programme participants.

During this review stage, there were occasional references to the objectives guiding the development of the virtual learning environment. The lack of a formal project management structure for the development of the virtual learning environment hampered the inclusion of these findings into a structured review and redesign framework. Although the objectives for the virtual learning environment were not revisited, there was a discernible shift in where the efforts of the LDS team were to be focused. This change saw a lessening of attention paid to objectives such as the development of online communities of practice, supporting mentor/protégée interaction, preparing online portfolios, and fostering reflective practice. Overall, the period saw the development of online resources with a view to attracting greater numbers of participants to the virtual learning environment. This repositioning also included an emphasis on LDS team members identifying and designing online content linked to their

respective programmes. Finally, this phase saw the development of a second online presence. This website – referred to informally as LDS *LIVE* 2 – is intended to provide easy access to the newly-developed content.

Implications

There is little doubt that the implementation of a virtual learning environment constitutes a very significant challenge for the LDS initiative. The objectives guiding the development of the virtual learning environment are consistent with effective approaches to continuing professional learning for school leaders. Furthermore, the *Fronter* learning platform includes a range of technological components. The system, for example, can support both synchronous and asynchronous communication. Online discussion forums can be established quickly and, if required, forums can facilitate anonymous contributions. Also, the system can be accessed via a web browser. Documents and files can be stored and accessed relatively easily and this was a topic included in initial training. Where document retrieval became problematic, this appears to be related to the lack of an adequate taxonomy of information and the failure to use metadata rather than an inherent limitation in the technology. While the system may lack the capacity to support the more flexible configuration envisaged within the electronic portfolio environment model discussed earlier, this is not a factor in the present analysis. In short, the system incorporates the key CMC technologies required to support the development of online communities of practice.

It is suggested here that the general model of continuing professional learning in the case study tends to restrict activity within a small number of workshops and seminars. While there is a structure evident in the design and delivery of modules, two deficiencies are identified here. First, there are no significant efforts to establish continuing professional learning activities bridging the face-to-face seminars. Providing opportunities for practitioners to engage with communities of practice between formal face-to-face sessions and, indeed, beyond the boundaries of individual programmes has yet to be addressed. Where the activities of a learning community are – by practice if not by design – limited to a relatively small number of encounters, then it is likely that the potential for a community of practice to support continuing professional learning will not be achieved. Second, there are no structured efforts to coordinate online activity with face-to-face activity. The potential to

use new learning approaches as facilitated by the virtual learning environment have, from time to time, been speculated upon. However, to date no concerted analysis – with appropriate consideration of technological, pedagogical, and learning theory issues – has been conducted. Debate on the use of the virtual learning environment tends to be restricted to how the system can support prevailing approaches to school leadership development. The most prominent indication of this is the general shift away from the development of online communities and towards the design and delivery of digital content.

Research Data

Questionnaire

The importance of the LDS team to the research is on a number of fronts. The team members are responsible for the design and delivery of continuing professional learning programmes associated with the LDS initiative. They are influential in determining the topics to be addressed and the manner in which these topics will be presented to participants. There are structural impediments that influence the design of the various modules. For example, the number of workshops and residential sessions for a given programme is usually predefined and is influenced by budgetary considerations. Nevertheless, team members have the opportunity to identify areas to be addressed within the various programmes as well as responding to requests from programme participants. As a result of their role in programme design and delivery, together with a development model which allows team members a degree of flexibility, the LDS team has the potential to set school leadership development priorities. Furthermore, given their role in designing professional development interventions, the team will also be instrumental in integrating a virtual learning environment into the continuing professional learning model. A final consideration is that the team constitute an identifiable community of practice within the LDS framework. As such, their perspectives on, and interaction with, the virtual learning environment will support conclusions on the use of online environments in support of school leadership development.

Data arising from questionnaire responses highlight a number of issues. Within the sample, the importance of practitioners meeting and engaging with other school leaders is stressed as an important support to continuing professional learning. Whether in the form of mentoring, participating in a network of school leaders, or discussing issues with an experienced school leader, the opportunity to engage with other practitioners is consistently

identified as an effective support for continuing professional learning. The emphasis on peer interaction is also evident in the design of the various LDS programmes. A stated benefit of the various programmes is an opportunity for participants to meet with other school leaders within the context of the seminars and workshops. Although it is emphasised that peer interaction is not exclusively identified as an approach to school leadership development, it remains highly valued by those charged with the design and delivery of continuing professional learning initiatives.

The importance placed on supporting peer interactions is extended to consideration of the use of a virtual learning environment. While participation in an online learning community is considered by some members of the LDS team as an effective strategy for the professional development of newly-appointed school leaders, it is not as highly rated as a range of other approaches. These include: mentoring; participation in formal in-service programmes; participation in a network of school leaders; and engaging in action research and reflective practice. When respondents were asked specifically to identify the value of using a virtual learning environment to support professional learning, the establishment of a forum for leaders to discuss issues was again highlighted. In response to open questions, supporting communication with peers, supporting the development of a community of professional learners, and supporting mentoring are among the potential contributions identified.

While the data do not indicate objective levels of proficiency, they do suggest that the LDS team has a familiarity with carrying out basic ICT-related tasks. The finding is significant when assessing the engagement of the LDS team with the virtual learning environment. The data suggest that limited access to computers, inadequate internet access, and an inability to accomplish basic ICT-related tasks can be discounted when examining the engagement of the LDS team with the virtual learning environment.

Virtual Learning Environment Statistics

The concept of communities of practice is not addressed directly in the design of LDS programmes. Nevertheless, the concept emerges both as an organisational unit and as a context for professional development. The organisation of the virtual learning environment is based on the communities that are established around the various school leadership development programmes. These communities centre on identifiable categories of

practitioner such as newly-appointed school principals, members of the LDS development team, and experienced school leaders. A further consideration is that communities of practice are implicit in many of the supports identified as being effective or desirable for continuing professional learning. In both responses to the research questionnaire and in the programme literature, the importance of peer interaction is emphasised. As detailed earlier, while the concept and practice of mentoring is not adequately addressed, an effective mentor/protégée relationship is dependent upon a supporting community of practice.

Within the virtual learning environment, each online community is, in the main, established to act as a counterpart to the face-to-face communities that are the mainstay of the LDS initiative. Analysis of patterns of engagement by programme participants and team members is hampered by inadequate differentiation between users categorised as programme participants and those identified a LDS team members. A further impediment is the limited reporting facilities within the *Fronter* system from which to draw reliable data. However, the analysis conducted did facilitate an assessment of patterns of activity within the virtual learning environment.

In summary, the proportion of users engaging with the various online communities is relatively low. Where significant activity is observed, the tendency is for this activity to be accounted for by members of the LDS team. This finding raises the issue of motivation to access the system. There is a wide range of topics addressed in the various forums established within each community. While the establishment of forums within communities is uneven, topics such as whole school evaluation, interview and selection techniques, assessment and learning, and the transfer of students from primary to post-primary school were addressed. These are topics that generate considerable discussion in face-to-face sessions and represent some of the challenges faced by school leaders on an ongoing basis. Yet some of these forums witnessed little interaction on the part of programme participants. This is despite concerned efforts on the part of LDS team members – through the use of SMS and email messaging, and through direct contact with participants during face-to-face components – to elicit contributions.

It is reasonable to suggest that the motivation for team members to engage with the virtual learning environment would, at least in part, arise from a concern to see the

successful implementation of a significant innovation. Difficulties in encouraging participants to use the virtual learning environment, as well as uncertainty as to how best to utilise the system, were raised periodically during team meetings. A characteristic of these discussions, however, was to explore how the virtual learning environment could be incorporated into the existing structures and approaches to continuing professional learning. There are, of course, pragmatic limitations on how programmes may be restructured. Nevertheless, the potential of the virtual learning environment to enhance professional development tended to be framed within prevailing approaches to school leadership development. Where the role of the online environment as a support to the development of communities of practice was identified, the challenges experienced by the team members in encouraging participants to contribute to online discussions were emphasised.

Forum Content Analysis

While analyses of user activity and an overview of design and implementation issues are illuminating, the capacity for the virtual learning environment to support professional learning is also important. This capacity was assessed through the use of content analysis methods applied to the transcripts of online discussion forums.

A preliminary analysis, using the Interaction Analysis Model, suggested that there were low incidences of knowledge construction within the online forums. A further, more detailed analysis confirmed this initial finding. The second analysis, which employed the Community of Enquiry Model, confirmed that, in general, cognitive presence within the communities was mostly limited to categories identified as triggering and exploration. The majority of contributions were indicative of interactions such as brainstorming, quests for additional information, offering supporting and contradictory ideas, and developing narratives on related experiences. Within the Community of Enquiry Model, two categories of cognitive presence are associated with higher order learning and knowledge construction. These are integration (characterised by the construction of suitable solutions or explanations, developing appropriate rationales or justifications, and evidence of intuitive leaps) and resolution (indicated by evidence of critical assessment of a proposed solution, the development of a thought experiment to test a solution, or perhaps the testing of a solution

through use of an action research project). These categories of cognitive presence are not identifiable to any significant degree within the LDS virtual learning environment.

The application of the model also indicated levels of social presence within the online communities. Contributions to the online communities are characterised by high levels of open communication and evidence of group cohesion. The development of a sense of community or group cohesion underpins learning as a social process. Therefore, the capacity for participants to engage in open communication, embodying trust and acceptance of the dispositions of others, is central to professional learning within a community of practice. A further indicator is that of group cohesion. This category of social presence, while less prevalent within the virtual learning environment than open communication, is characterised by the use of inclusive pronouns. Group cohesion is pivotal in differentiating between a community of practice engaged in collaborative enquiry and a group of practitioners exchanging information.

7.3 Conclusions on Policy Processes and Project Management

While the project at the centre of the case study is ambitious in scope and is likely to give rise to challenges in implementation, the research confirms the existence of weaknesses in systemic approaches to educational innovation. Specifically, deficiencies in policy formulation and project management in the area of school leadership development are highlighted. While the implementation of the virtual learning environment was identified by the Internal Management Committee and the LDS team as a priority, the absence of a robust and structured approach to the implementation of the project is evident. Contributing to this weakness is the absence of a guiding framework or model of continuing professional learning against which to gauge objectives and identify suitable strategies.

The research confirms general deficits in the area of education policy. In particular, deficits in three areas can be emphasised:

- A deficient understanding of the roles and objectives of effective school leadership;
- An inadequate approach to identifying the end-goals and approaches to continuing professional development for school leaders, and;

- A failure to address how the characteristics of information and communication technology can be harnessed to support continuing professional learning for school leadership.

In general, the research supports conclusions reached by, among others, Cromien (2000), Coolahan (1994), the OECD (1991), and O'Sullivan (1989) on the structural impediments to effective policy development evident within the DES. Within the present study, some elements of these generic criticisms can be identified. Certainly, there is evidence of talented and well-intentioned practitioners striving to make a policy a reality. In addition, arising from the findings of the Cromien report, a number of changes in the organisational structure of the DES were implemented[49]. These include a 'policy' section within the DES and the establishment of a planning and policy review standing committee. This standing committee operates under the aegis of the Management Advisory Committee (MAC). The structure of the DES inspectorate also includes a Policy Support Subdivision. This subdivision of the inspectorate incorporates a unit charged with teacher induction and in-career development.[50] However, the present research suggests that this revised structure has not had a significant impact on contributing to the successful implementation of the VLE initiative.

A related perspective on the deficit in the policy implementation process arises from consideration of the role of the National Council for Technology in Education (NCTE).[51] The NCTE played a central role in the development of the design specification and tender process to secure the supporting virtual learning environment technology and training. However, the guidance of the NCTE is difficult to discern. During the design and implementation of the project, NCTE representatives contributed to a number of review meetings. However, the research did not identify NCTE contributions to the policy process that supported a focus or refocusing on the core objectives of the initiative. Furthermore,

---

[49] I am grateful to Lorcan Mac Conaonaigh, Assistant Chief Inspector, Department of Education & Science, for clarifications on changes in the DES organisational structure following publication of the Cromien Report.

[50] For details on the role and structure of the DES inspectorate, see: http://www.education.ie/home/home.jsp?maincat=32818&pcategory=32818&ecategory=32818&sectionpage=27692&language=EN&link=&page=1

[51] For an overview of the NCTE, see: http://www.ncte.ie

there is an unclear relationship between the IMC, the NCTE, and the DES with respect to determining the policy dimension and the project management elements of the initiative. In practice, overall responsibility for the identification and achievement of policy objectives remained with the LDS team.

While a detailed examination of the relationship between policy formulation and project management is beyond the scope of the present report, project management strategies are identified as an important contribution to the successful implementation of a designed initiative. At its simplest level, project management will entail the achievement of project objectives through the planning and control of relevant personnel and resources. It will require 'the development of constructive human relations with and between all those concerned' as well as the deployment of specialised information, scheduling and control systems (Harrison & Lock, 2004: 6). Therefore, an effective policy formulation process will encompass – or at least anticipate the development of – a coherent project management approach. This will be particularly useful when considering a specific initiative such as a virtual learning environment. While the policy framework is central to the determination of the objectives for the artefact, the initiative necessarily entails the development and deployment of a tangible set of interrelated technologies. Therefore, project management and policy development frameworks become key elements in the implementation of educational innovation. With respect to the case study under consideration, both the policy development process and the project management structure are unsatisfactory.

A reliance on superficial approaches to continuing professional learning and an inadequate consideration of the deployment of virtual learning environment in support of school leadership development have also been highlighted. These observations do not negate the committed efforts of groups and individuals engaged with the project. However, they do emphasise the failure of the initiative to achieve identified goals. This shortcoming is most evident in the area of sustained online communities of practice and the development of professional knowledge through critical discourse. As a significant exercise in pursuit of enhanced professional development for school leaders, the project represents a significant investment of personnel and resources. The exercise has yet to realise a number of the identified objectives. Furthermore, the changes in development direction outlined earlier in

this report are not well placed to support continuing professional learning through critical discourse mediated within communities of practice.

7.4 A Model for CMC-Supported Professional Learning

Efforts to develop a model of CMC-supported professional learning are a response to the issues arising with respect to professional development for school leadership identified in the study. These issues and deficits are summarised here:

- Leadership action occurs in the midst of complex and uncertain social contexts. A key skill of the effective practitioner is the capacity to view these contexts from multiple perspectives. The adoption of the most appropriate leadership strategy is contingent on reference to the leader's professional knowledge.

- While effective leadership is correlated with the possession of innate personal characteristics, there are a range of competencies, skills and dispositions that are developable. These attributes can be considered under constituent categories of professional knowledge. Examples highlighted here include procedural knowledge, propositional knowledge, personal knowledge, and process knowledge.

- It is argued that professional knowledge comes to be represented for the individual practitioner by way of schemata or cognitive maps. These leadership schemata influence the manner in which problems are framed and experiences are interpreted. They also shape what will be considered an appropriate leadership response.

- What is considered effective leadership action is fruther shaped by socio-cultural influences. Expectations of school leadership change over time. These changing expectations are reflected in the language of both the research literature and of policy documentation.

- Attempts to increase our understanding of school leadership have prompted the development of a number of theories and models of school leadership. As leadership concepts emerge – in the main from the advocacy literature – they tend to be reflected in the language of policy development and educational provision. This tendency is evident in the area of continuing professional learning for school leadership.

- The adoption of concepts and expectations emerging from the literature may represent the identification of objectives for school leadership development. However, the present research suggests that, at least in some instances, insufficient attention is paid to the changes in practitioner thinking that are necessary to embed these concepts into leadership practice.

- There is a wide variety of continuing professional learning opportunities available for school leaders. These initiatives utilise a number of methods and approaches to support professional development. However, a concern is raised over the tendency for these programmes to be carried out over relatively short periods of time. It is suggested here that revised concepts of continuing professional learning can be contrasted with the prevailing approach of punctuated professional learning.

- With respect to the continuing professional learning initiatives focused upon, the absence of a core or guiding theory of professional learning is emphasised. A related concern is the implicit use of learning contexts such as blended learning and mentoring as substitutes for learning theory.

- The study focuses on the dispositions and experiences of those charged with the development of continuing professional learning initiatives. The population at the centre of this study are part-time and fulltime members of the *Leadership Development for Schools* Team. Of note is the high value placed by the team on providing opportunities for peer engagement in support of continuing professional learning.

- In general, there is significantly less importance placed – by the LDS team responsible for programme development – on the value of a virtual learning environment to support leadership development. Where attention is focused on the use of an online environment, the value of the environment to support peer interaction and learning communities is emphasised. This finding is significant given the role of the LDS team in integrating the virtual learning environment into the suite of continuing professional learning programmes available within the initiative.

- The experiences of the LDS team during the implementation of a virtual learning environment – LDS *LIVE* – were explored. Three key stages of the implementation of

the virtual learning environment were identified: conceptual and modelling phase; procurement and implementation phase; review and reposition phase. These phases are not identified here as deliberate or planned elements of a project management structure. They are, however, identifiable phases in the implementation of the innovation.

- The dissonance between the objectives identified during the conceptual and modelling phase and the practices and behaviours evident in the review and reposition phases is significant. Most notable is the deemphasising of the development of online communities of practice and a concentration on the development of online resource materials. A significant manifestation of this shift is the development of a second online presence that is currently running in parallel to the *Fronter* virtual learning environment system.[52]

- The analysis of the use of the virtual learning environment confirms that there are low levels of access on the part of programme participants. While the present research did not explicitly explore reasons why participants did not engage with the online environment, it is hypothesised that the poorly developed concept of communities of practice within the approach to continuing professional learning is a contributing factor.

- Within the virtual learning environment, the bulk of activity is accounted for by members of the LDS team. Considerable effort appears to have been expended in encouraging programme participants to engage with the online discussion forums. In light of the generally poor access rates, the response was a shift in emphasis in the use of the virtual learning environment.

- While the LDS team can be regarded as an identifiable community of practice, some critical elements associated with effective learning are not in evidence in the online environment. Following interaction and content analysis of online discussions, high levels of social cohesion among contributors were identified. However, the higher cognitive activities such as knowledge construction, profound learning, and the

---

[52] As the present research was concluding, LDS replaced the *Fronter* system with an online environment based on the *Moodle* (www.moodle.com) platform. The revised 'front end' operating at www.lds21.ie is, at the time of writing, the primary online portal for the LSD initiative.

application of new learning were not found. The online communities did display high levels of openness and willingness to explore common experiences.

- The organisation of the online communities reflects the organisation of communities established to support the face-to-face elements of the various programmes. However, there are few areas where there are substantive correlations between learning activities in online and face-to-face components.

- Where challenges in the implementation of the virtual learning environment are identified, the general tendency is to address these challenges through the integration of the technology into existing structures and practices. This tendency is facilitated through the lack of a model or roadmap to guide the development of the virtual learning environment. A feature of this deficit is that the future role of the virtual learning environment fails to be developed in the content of significant policy documents on school leadership in Ireland.

The development of a single model is unlikely to address issues such as those identified above. Nevertheless, a conceptual framework will serve to highlight areas to be accounted for where the introduction of a technological innovation such as a virtual learning environment is considered. In support of the development of the model, a preliminary framework exploring the relationship between communities of practice, leadership frameworks, continuing professional learning frameworks, and virtual learning environments is proposed. This will support the second stage of development and facilitate the introduction of the constituent elements of the model

Preliminary Framework Element: Communities of Practice and Leadership Action

A reference point for the development of the model is that any proposed model of CMC-supported professional learning must account for communities of practice. This arises from two principal concerns. Firstly, communities of practice are a locus of leadership action. That is, they are important contexts within which leader thinking and decision-making takes place. As detailed in Chapter 3.4, communities of practice typically encompass concepts of schools as professional learning communities. These learning communities are characterised by features such as: supporting reflective and critical enquiry; mutual trust; shared values

and vision; collaboration; and openness. As these features are consistently cited as necessary supports to continuing and meaningful learning, the professional learning community is a useful construct to describe the effective school. These schools are populated by people who are committed to a common purpose. They include not only teachers, but also students, parents, and other adults working in the school. These individuals are engaged in sustained reflection and dialogue on issues of teaching and learning. This professional discourse gives rise to new narratives and supports the formation of new professional knowledge. Professional learning communities are also characterised by models of shared and supportive leadership.

Consequently, an objective of school leadership is to support the development of schools as learning communities. Doing so requires attention to the constituent groupings of practitioners within schools. This implies that individuals within the community contribute to the achievement of the core objectives of the organisation. These individuals will not – in the main – operate in isolation: they will work as part of a teaching team or a subject department. They may also be part of a groups charged with developing a particular innovation or project within the school. This suggests that a professional learning community will itself incorporate constituent communities of practitioners engaged in mutual learning and reflection. While individual practitioners may be closely associated with a single community of practice, they will typically engage with multiple communities as part of their work and development. These communities of practice are characterised by three key elements: mutual engagement giving rise to relationships within the community, the shared enterprise or objective of the community, and a shared repertoire of language, practices and artefacts characteristic of the community. Focusing on the Irish context, formalised approaches to the evaluation of educational provision anticipate that the school principal will organise teachers into collaborative teams. These teams are charged with effecting improvements in teaching and learning within the school, primarily through scrutiny of practice and the development of school policies. While the mechanisms supporting school improvement are uncertain, that it involves the engagement of practitioners in collaborative and communal efforts is emphasised.

The relevance of communities of practice to school leadership is also emphasised in findings arising from the case study at the centre of the present research. Furthermore, in the literature, and in relevant policy documents, there are consistent references to the role of school leaders in developing learning communities. These communities may be described as partnerships or networks. They have, however, the common purpose of supporting sustainable learning. Within many of the theories of school leadership and leadership models examined here, the development of relationships within communities is associated with the leadership role. Some models of school leadership cite the importance of community building, both within the schools and between the school and other organisations. More specifically, the role of the school leader is the development of a community characterised by commitment to a common purpose, an understanding of the importance of social interaction to learning, a capacity to deal with dissonance and disagreement, and the promotion of professional discourse.

What is proposed here is that despite the existence of varied and contrasting models of school leadership, key aspects of leadership action will be contextualised within communities of practice. The various leadership frameworks may encompass established theories of school leadership, they may be tailored to suit specific cultural and social contexts, and they may encompass elements such as leadership skills, competencies, and standards of practice. The position put forward here is that, regardless of the orientations of a given leadership framework, the concept of engagement with communities of practice as an aspect of leadership action is likely to emerge. This will arise not least because of the recasting of schools as professional learning communities and the placing of communities of practice at the centre of efforts to improve schooling. These considerations suggest that, while they may be disagreement or a lack of clarity on the role of school leaders, a meaningful leadership framework will recognise the relationship between the individual school leader and communities of practice as environments for leadership practice. Consequently, approaches to continuing professional development for school leaders must account for the centrality of communities of practice to the leader role.

Preliminary Framework Element: Communities of Practice and Continuing Professional Learning

The second consideration for school leadership and communities of practice is the formation of communities with the object of supporting continuing professional learning. School leaders are potentially members of the set of all school leaders. With at least a speculative shared repertoire of language and core competencies, each practitioner may be deemed to be a member of the community of all school leaders. It is unlikely that this potential grouping would coalesce to form a functioning community of practice. A more likely proposition is that sub-sets of the school leader population – for instance, newly-appointed leaders, or leaders working in schools with common characteristics – could constitute viable communities of practice to support continuing professional learning. Although these putative groupings may exhibit some of the key characteristics of communities of practice, it is with respect to collaborative learning and the construction of professional knowledge that an effective community of practice is defined. With the potential to support sustained and meaningful learning, communities of practice are consistently identified as an important support for school leadership development.

As a situated activity, learning arises from the interaction and engagement of learners within the community. Learning is, therefore, framed in a social context which is populated with co-practitioners and co-learners. Exploring narratives within communities of practice can help practitioners to better understand their experience. The sharing and critique of these narratives support the application of knowledge in novel and complex situations and form the basis of future learning.

Features of communities of practice emerge as significant when approaches to continuing professional learning for school leaders are examined. Revisiting the Leadership Development for Schools case study, approaches such as mentoring, action learning networks, and professional discussion forums are consistently identified as desirable continuing professional development supports. Although the use of these approaches is not supported by reference to research, those charged with the development of programmes of learning consider them to be central planks in a programme of professional development. And, as argued in Chapter 3.2, the effective deployment of mentoring and peer support programmes requires the development of a supporting community of practice. What emerges

from the research data is that the development of communities of practice – principally with the objective of engaging professional discourse and prompting reflective practice – is an important concern for those designing LDS programmes. Therefore, while leadership development models will incorporate various elements – for example, mentoring, reflective practice, and theories of learning – effective models will also encompass engagement with communities of practice. In summary, explicit or implicit reference to the centrality of communities of practice to the continuing professional learning process is a characteristic of most formal programmes.

Linking Communities of Practice and VLEs

Arising from the importance of communities of practice to both leadership frameworks and continuing professional learning frameworks, they are identified as a key element of the conceptual model under consideration. More specifically, the relationship between leadership frameworks, continuing professional learning frameworks, communities of practice, and virtual learning environments is identified as a preparatory element of the proposed model. This relationship is outlined diagrammatically in Figure 18 below.

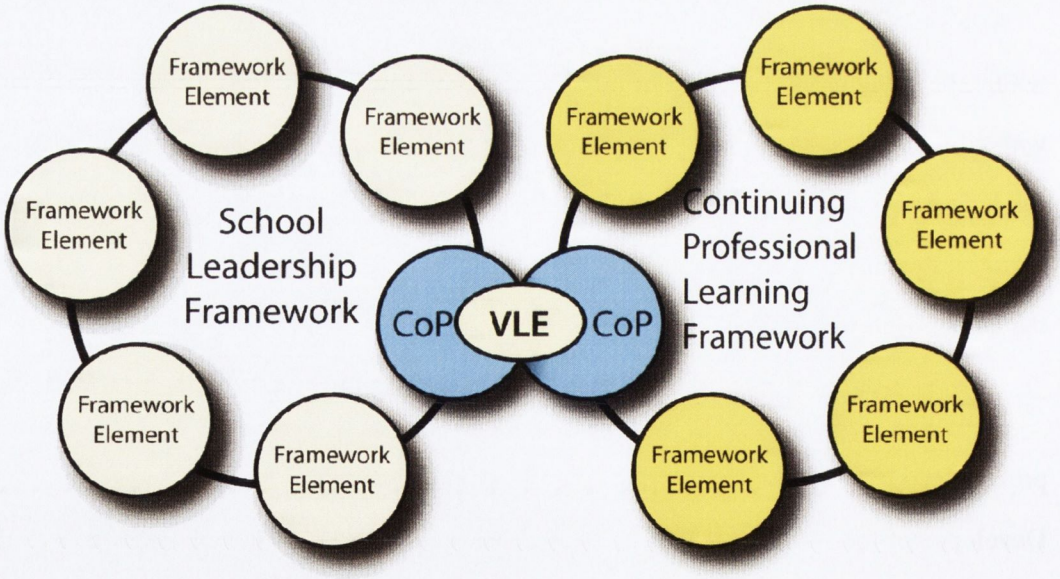

Figure 18: Relationship between communities of practice and virtual learning environments

It will be apparent that leadership frameworks and continuing professional learning frameworks will potentially have multiple points of overlap. It is suggested here that one critical point at which the two frameworks will mesh is that of engagement with

communities of practice. Essentially, what is proposed is that communities of practice are indivisible from leadership action and continuing professional learning. This leads to the corollary that engagement with communities of practice is a sine qua non of school leadership. Furthermore, if the case for the importance of communities of practice to school leadership is accepted, then the necessity to facilitate engagement with multiple communities becomes evident.

One approach to the problem of practitioners engaging with multiple communities of practice is the introduction of an online or virtual component. While the use of virtual learning environments to sustain communities of practice is increasing, it is only rarely that a community would exist exclusively in an online form. In the case of the *Leadership Development for Schools* initiative, there is a clear and deliberate relationship established between the online communities and the groupings used to facilitate face-to-face components. Despite their increasing popularity, there are few empirical studies on the effectiveness of virtual learning environments to support continuing professional learning for school leadership. However, some insights many be drawn from research in other areas of professional practice. Although online communities may vary greatly in their composition, it is their capacity to foster sustained critical dialogue that links them to continuing professional learning.

Arising from the present study, the implementation of a virtual learning environment is advocated because of its capacity to:

- Support the development of communities of practice;
- Support practitioner engagement with multiple communities of practice, with repect to both leadership role and continuing professional learning;
- Contribute to the development of the professional knowledge base;
- Provide access to echoes of critical discourse, thus allowing evaluation of gradations of knowledge construction within a community;
- Enhance the development of social presence and cognitive presence within communities of practice;

- Foster consideration of new approaches to continuing professional learning for school leadership development, and;

- Prompt consideration of new roles for programme designers and deliverers, the most notable of which are those of online facilitator and the programme designer as researcher.

As noted (see Chapter 3.4), engagement in communities of practice features in the language and literature of professional development. However, the practice of continuing professional learning does not appear to be tailored to achieve this objective. With reference to the case study, a stated objective was the use of a virtual learning environment to support the development of communities of practice. While some requisite elements of communities of practice were evident within the virtual learning environment, the higher cognitive activities of knowledge construction and the application of new learning were not prominent. What was evident is that the organisation of both face-to-face and online elements reflects some of the organisational characteristics of communities of practice. However, the analysis of data confirms that sustained dialogue and the construction of professional knowledge were, in the main, absent.

Two related elements are identified as contributing to this finding. First, there is insufficient attention paid to the characteristics of communities of practice and the structures that are required to give rise to them. Prevailing approaches to continuing professional learning are more accurately described as *punctuated* professional learning. A defining characteristic is that these initiatives are conducted over a relatively short period of time and that there is limited opportunity for sustained engagement between practitioners. The second element extends from this conclusion. If the concept of membership of a community of practice is poorly developed, then no compelling rationale to engage in an online manifestation of that community emerges.

7.5 Elements of the Model

At this stage, a more detailed model is proposed. This model is intended to guide the implementation of CMC-supported continuing professional learning initiatives. The model incorporates a number of elements which have emerged in the present study and their

appropriateness for inclusion is confirmed by the research data. In this section of the report, the constituent elements of the model are examined, as is their interrelation. While the present research does not confirm the effectiveness of the model, the concepts and conclusions arising suggest the basic elements upon which the model is grounded. Consequently, each element – together with consideration of the implications for the application of the model – is referenced to the theoretical context, case study, and analysis of associated research data. Consideration of the model is aided by reference to Figure 19 below.

Some general characteristics of the presentation of the model should first be addressed. The model incorporates observable elements (shaded) and non-observable elements. Observable elements include activities such as participation in a community of practice, engaging in discourse, and employing action science methods. Non-observable elements include professional knowledge, interpersonal reflection, and leadership schemata. While these latter elements are not directly observable, they may be inferred from the appropriate use of qualitative and quantitative research methods focused on the observable elements of the model. The proposed model is also divided into three primary 'zones', each of which represents a context for professional learning for the individual practitioner. Zone 1 and Zone 3 are characterised by reference to activity within a community of practice. These elements of the model should be assessed with reference to the preliminary framework addressing the relationship between communities of practice and a virtual learning environment (see Figure 18, page 244). As proposed, communities of practices are identified as key loci for leadership action and, in particular, leadership development. Zones 1 and 3, therefore, account for activity within online and face-to-face communities of practice.

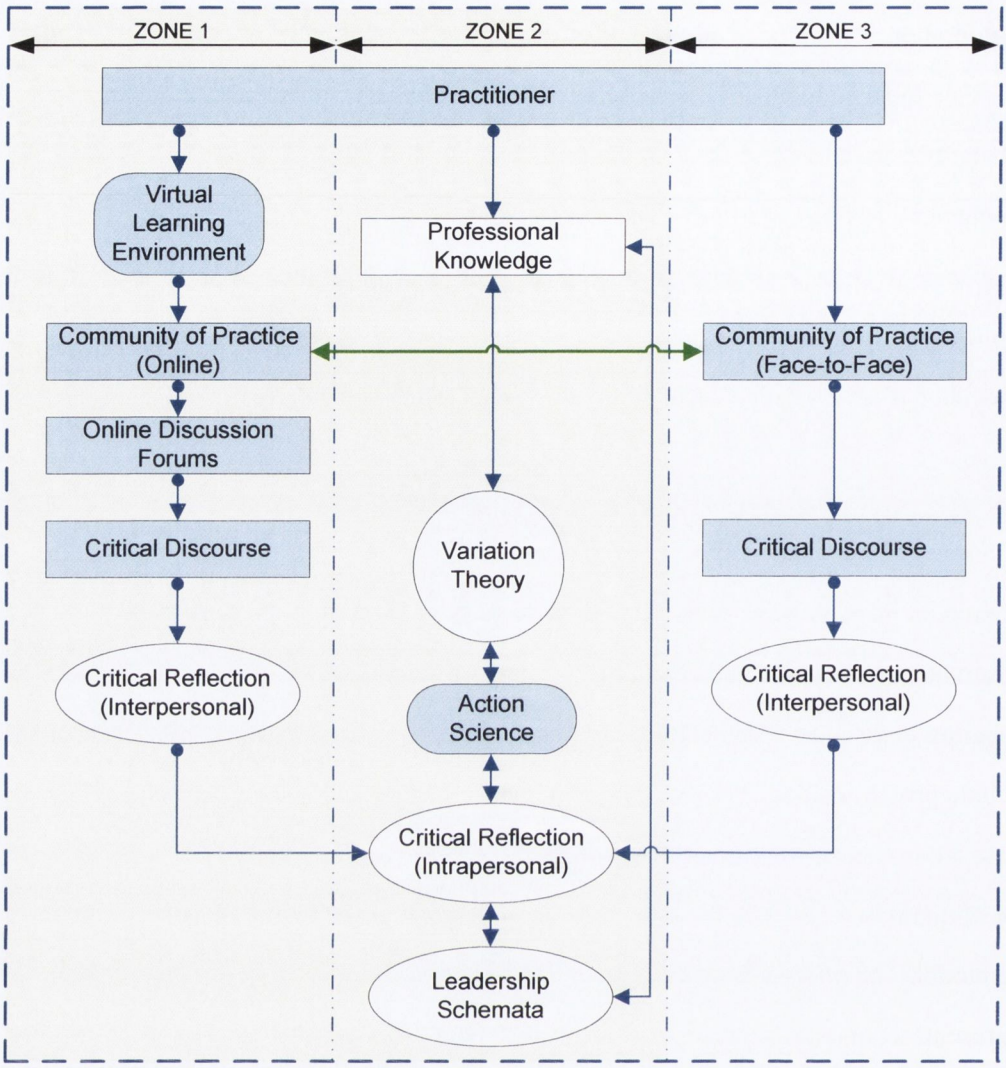

Figure 19: Model of CMC-Supported Professional Learning

Communities of Practice and Critical Discourse: Zones 1 & 3

Initial consideration of the model emphasises the centrality of communities of practice. As contexts for leadership action and continuing professional learning, they highlight the concept of professional learning as an inherently social endeavour. The rationale for the inclusion of communities of practice in the model is their capacity to support interpersonal critical discourse. Professional dialogue is central to the activities of both online and face-to-face communities of practice. In the case of a virtual learning environment, this dialogue will likely be conducted via online discussion forums. However, that effective communities of practice will likely incorporate both online and face-to-face elements is emphasised.

Variation Theory and Action Science: Zone 2

One of the challenges identified in the research is the placing of consideration of learning theory and methodology at the centre of the design of the virtual learning environment. Doing so is necessary to ensure that these elements are not eclipsed by matters such as technical challenges and the influence of prevailing approaches to continuing professional learning. Zone 2 of the model is proposed as a necessary component to support the effective deployment of communities of practice in pursuit of professional learning. Having identified cognitive schemata as objects of continuing professional learning, it is necessary to identify means by which professional knowledge can be enhanced. There are a number of theories of learning that are appropriate to supporting professional development. The benefits of identifying variation theory as a suitable foundation for continuing professional learning derives, in part, from the centrality of personal knowledge to the concept of professional knowledge.

As well as identifying learning as arising from social interaction, variation theory also draws attention to the context for learning. While learning can occur in informal and unstructured settings, a person's experience of the learning situation will influence what is learned and how it is learned. Variation theory emphasises that learning occurs when a learner is capable of discerning aspects of a phenomenon that he or she was unaware of previously. In this respect, the approach reflects the foundation of knowledge construction as the identification of difference.

Established continuing professional learning frameworks typically include elements such as the development of communities of practice and engagement in critical reflection. However, the proposed model emphasises that these elements tend to be included without adequate consideration of a guiding theory of professional learning. Here, variation theory of learning is placed at the centre of the model. This theory is deemed suitable as an approach to continuing professional learning because it accommodates a perspective on learning as differentiation as well as enrichment. It proposes that the experience of variation and the development of discernment are key elements of learning. Where learning is considered exclusively in terms of enrichment, the value of exposure to dissonance and variation may be undervalued.

Professional Knowledge and Leadership Schemata: Zone 2

Zone 2 of the model also prompts for consideration of professional knowledge and leadership schemata. At an initial level of analysis, professional learning is concerned with uncovering and constructing professional knowledge. However, a feature of professional knowledge is that much of it is tacit. While it may be possible to infer the existence of professional knowledge, much of it cannot be examined directly. Propositional knowledge is indicated by the theories and concepts that are closely associated with a field of practice. Knowledge of how to accomplish a task suggests the possession of propositional knowledge. Procedural and propositional knowledge are bounded. A third form of knowledge – personal knowledge – is also embedded in the concept of professional knowledge. This knowledge comprises a personal knowledge base which emerges from experience of, and reflection on, cases, problems, and phenomena

There are a number of related concepts that may be considered in relation to personal knowledge. A first consideration is that personal knowledge will influence interpretations of other knowledge forms, such as procedural and propositional knowledge. While propositional knowledge may be regarded as the hallmark of a profession, this canonical knowledge must still be encountered, distilled, and interpreted with respect to the dispositions and experiences of individual practitioners. Personal knowledge, whether defined in the form of schemata, frames, cognitive maps, or theories of action, becomes a crucial element of professional action. Leadership problems occur primarily in social contexts: they may be complex, ill-defined, and require multiple approaches to address. Effective leadership requires access to a repertoire of professional knowledge. It is the interpretation of problems and situations with reference to cognitive schemata that will suggest appropriate courses of leadership action. Thus, the development of new or differentiated leadership schemata becomes a legitimate objective of continuing professional learning.

Effective leaders are skilled at defining a problem and at then constructing a cognitive framework that supports a clearer understanding of the problem. How the problem is conceptualised will be influenced by the practitioner's experiences and by their organisation of principles and concepts as constituent elements of professional knowledge. The internal representation of these concepts as cognitive maps shape how a situation is understood and

what are considered appropriate responses. Importantly, reference to leadership schemata will also suggest which solutions and practices are consistent with defensible objectives of schooling. Although these schemata cannot be examined directly, some inferences can be drawn through appropriate observation of leader behaviour

While the identification of a class of schemata specific to leadership may be problematic, the categorisation is appropriate given the present focus on continuing professional learning. Just as learning with respect to the practice of school leadership may be regarded as a category of learning, so too can the objects of that learning – schemata – be similarly differentiated. This is not an attempt to compartmentalise learning into rarefied categories of professional and non-professional learning. Rather, the objective is to emphasis the focus on learning related to an identifiable area of activity, namely, school leadership.

Reflective Practice: Zones 1, 2 & 3

Another of the non-observable elements of the model is interpersonal and intrapersonal critical reflection, or reflective practice. References to reflective practice are common, both in the literature on school leadership development and in policy documents. While metacognition and reflection can be justifiably included in programmes of continuing professional learning, it is necessary to examine the supporting practices and methodologies. The inclusion of reflective practice in the model is more specifically targeted at practices of interpersonal and intrapersonal critical dialogue. Focussing on the example of an online community of practice, a key characteristic of a community is the presence of critical dialogue. This dialogue is the setting for interpersonal reflection, the nature of which can only be approximated by reference to examples and transcripts of the discourse. What is posited here is that there is a contributory relationship between interpersonal critical reflection and intrapersonal reflection. This perspective is consistent with both learning theory and concepts of learning as grounded in social contexts.

7.6 Applying the Model: Implications for Policy and Practice

What should be stated at the outset is that application of the model does not anticipate that existing approaches to continuing professional learning are rejected. The development of the model is not intended to replace existing leadership frameworks or continuing

professional learning frameworks. For example, the model anticipants that approaches such as reflective practice, mentoring, and engagement with learning communities would still be identified as significant supports to continuing professional learning. What the model does promote, however, is that these practices be examined with respect to the critical dimensions of the model elements. Essentially, the model proposes that continuing professional learning initiatives encompass action science approaches from two perspectives. First, action science suggests a useful framework within which to assess the appropriateness of a given professional development approach. References to reflective practice or to communities of practice can, through the lens of action science, be unpacked to expose the defining characteristics of the methodology. This critical analysis prevents the superficial application of these and other related concepts. The second application of action science is the identification of the approach as a continuing professional learning strategy in its own right. Therefore, a key skill for a school leader is the capacity to apply an action science framework to his or her own practice.

Online Communities of Practice

The consistent theme emerging from the research is the centrality of communities of practice to leadership action. Engagement with learning communities is not only a key leadership role, it is the cornerstone of effective continuing professional learning. While the difficulty in engaging practitioners in online communities may be identified as a structural difficulty – that it, the solution is to be found in a reconfiguration of the online environment itself – the real challenge lies in a realisation that the issue is equally one of culture.

Developing communities of practice as contexts for professional development is a considerable departure from prevailing approaches. While references to learning communities and communities of practice may appear in policy documents, there is inadequate treatment of what engagement with a community of practice entails for practitioners. The most challenging – and contentious – proposition is that engagement with communities of practice is not a matter of personal predilection: it is a professional imperative. This perspective has ramifications not only for conceptions of school leadership, but for approaches to continuing professional learning for school leaders.

Developing a Critical Centre

Metaphorically, the proposed model is considered to have a 'critical centre'. This derives from the inclusion of elements such as action science and critical reflection within the structure. The model encourages a critical disposition with respect to the implementation of continuing professional learning initiatives. Therefore, the model eschews superficial analyses of both leadership models and continuing professional learning frameworks. The application of action science principles to the professional development process raises the challenge of incorporating dissonance into the continuing professional learning process. This constitutes a challenge for both practitioners and programmes designers.

One possibility raised in respect of this consideration is the sourcing of expertise from outside the traditional pool of educational practitioners. One of the tenets of the action science methodology is the use of expert facilitators to guide the exploration of theories of action. The application of action science approaches to education is not typical. Consequently, the use of practitioners outside the educational sphere should be considered.

Designers as Researchers

A final consideration is the recasting of programme designers as researchers. The concept of the researcher-practitioner is well established in education. However, the concept should be applied to those charged with the design and delivery of professional development interventions. This will be important in the context of the development of online communities of practice. Skill in content analysis, for example, will be necessary to assess the nature of professional learning within discussion forums.

7.7 Directions for Further Research

Not all elements of the proposed model are supported by reference to the research data. While the inclusion of individual elements can be justified, the effectiveness of the model cannot be confirmed. As the model includes a number of linked elements, it is possible to subject one or more elements of the models to further analysis. However, it is the concept of an extended electronic portfolio configuration within a virtual learning environment that is identified as an area of significant further research.

7.8 Conclusion

Technological innovations are not culturally neutral: they must be considered in the light of their socio-cultural context. In considering the use of a technological innovation to support learning, there are three broad possibilities related to its introduction. Each of these scenarios envisages that the technology is gauged with reference to an identifiable culture of learning and professional development. First, the innovation may be considered an irrelevancy. This is not equivalent to a rejection of the innovation's potential: rather it is an implicit consensus that the technology has little or nothing to offer by way of improving upon current practice within a given field. Second, the innovation may be absorbed into the dominant culture. This may result in the technology being used to reinforce existing practices without an appreciable improvement in organisational effectiveness. The third scenario is that the technological innovation may prove to be a stimulus to re-evaluating prevailing culture and dominant practices. The application of the model arising from the present study, which encourages assessment of learning contexts and methodologies with reference to defensible concepts of professional knowledge and leadership action, will help to ensure that the potential for CMC technologies to support learning are not eclipsed by the natural inclination to reinforce existing practices.

8 Appendix 1: Memorandum of Understanding

Memorandum of Understanding: Revised 18 June 2006

Between:

Rory O'Toole (Principal/LDS Associate Member/PhD student)

and

Leadership Development for Schools (LDS) Programme

Background

The Leadership Development for School (LDS) programme has, as part of its remit, the task of implementing a virtual learning environment (VLE) to support the professional development of school leaders. This Memorandum of Understanding (MoU) covers the role of Rory O'Toole with respect to: (i) cooperating with LDS on the development and implementation of a virtual learning environment (VLE) to support the professional development of school leaders; (ii) the role of Rory O'Toole as lead researcher in a participatory action research project to assess the effectiveness of a VLE to support professional development; and (iii) conditions influencing access to research data and the distribution of research findings.

Research Objectives

The research will explore issues relating to the implementation of a virtual learning environment to support the professional development of school leaders. This framework will facilitate the assessment of the effectiveness of a VLE as a tool to support CPD for school leaders.

The research will draw upon qualitative and quantitative data. In setting a context for the development of a VLE of professional development, it will be useful to visit primary sources and influences. This will include interviews with key actors and decision-makers involved with the initiative. Consequently, the research will also involve a case study element. This

approach will offer a useful contribution to knowledge on the effective implementation of ICT for professional development.

A typical approach to analysing data emerging from one or more of the above interaction categories would be as follows: As the VLE is implemented, participants, tutors and mentors engage in dialog supported by online communities. Some of the communities may operate with anonymous participants. All participants will have been made aware that for the purpose of best practice and to fulfil legal requirements, all online communities are monitored by LDS personnel. They will also be aware that data-such as patterns of interaction, recurring threads of discussion, 'depth' of topic analysis – may be used anonymously in the context of a participatory action research project. Following preliminary analysis of interaction patterns and topic analysis, a small number of contributors may be invited to participate in structured interviews. The purpose of these interviews is to gain a clearer insight into the effectiveness of the VLE as a support for processional development.

It is anticipated that the roll-out of the VLE will initially see LDS Coordinators and Associate Members as an initial participatory action research population. The lead researcher will also initially work with this group to develop competencies required to use the VLE as part of the LDS professional development programme.

Research Date & Confidentiality

The standard research practices of confirmed confidentiality and anonymity within the research population will be adhered to. The research population will be informed prior to the engagement with the VLE that there is a participatory action research project associated with the early roll-out of the VLE. The permission of individual members of the LDS team and LDS programme participants will be sought before the inclusion of related data in the research. All contributions will be treated anonymously. As the proposed VLE is based on propriatory technologies, data or information of a commercially sensitive or confidential nature will not be detailed in the research.

Data emerging from the research, and subsequent findings emerging from analyses of these data, are central to the research project. However, consideration must be given to the possibility, and to ensure that the research can be successfully completed, permission to use data will be sought at two levels. The first level – and the minimum level of permission required for the research to progress – is the right to use data arising from the project to prepare a dissertation for submission to Trinity College, Dublin. The normal rubrics and standards associated with the preparation of a dissertation will apply. Permission to use data for the purposes of preparing a doctoral dissertation is deemed to be granted where this MoU is agreed.

The second level at which permission will be sought is with regard to the publication or dissemination of research findings based on data arising from the research. Permission to publish research findings will be sought, in writing, from LDS as required.

Special Requirements

- Rory O'Toole will work in close cooperation with LDS Coordinators and Associate Members in the implementation of the VLE;
- Rory O'Toole will provide email support to LDS Coordinators and Associate Members as the VLE is developed and implemented;
- Rory O'Toole will cooperate with the technical developers of the VLE to ensure that the environment is suited to LDS requirements;
- LDS Coordinators and Associate Members will give outline agreement to participate in the participatory action research project;

Timeframe

[To be agreed]

This Memorandum of Understanding covers the period from date of signing to end of September 2008.

Review Procedures

This Memorandum of Understanding may be reviewed with the mutual agreement of both parties.

Signatories

1 On behalf of Leadership Development for Schools
15/09/2006

2 Rory O'Toole
19/09/2006

9 Appendix 2: Questionnaire

Evaluating LDS LIVE: Questionnaire for LDS Team

Introduction

As part of a post-graduate research project, I am exploring the use of a virtual learning environment (VLE) to support the professional development of school leaders. The research is linked to an internal evaluation of the implementation of LDS LIVE, the virtual learning environment designed to support the work of Leadership Development for Schools.
In general, the research will explore issues relating to the implementation of a virtual learning environment to support the continuing professional development of school leaders. The objective is to develop a conceptual framework to guide the deployment of information and communication technologies (ICT) to support school leadership. The framework and related evaluations of the use of ICT in professional development will inform future policy development in these areas.

Your participation in this evaluation is much appreciated.

Click "Next" to get started with the survey. If you'd like to leave the survey at any time, just click "Exit this survey". Your answers will be saved.

Rory O'Toole (rorypotoole@eircom.net): March 2007

Leadership Profile

Please outline some details in relation to your leadership profile

1. Please indicate your gender:

- ○ Female
- ○ Male

2. Please indicate your role in the *Leadership Development for Schools* initiative.

- ○ LDS Fulltime Team Member
- ○ LDS Associate Member

3. Please indicate the LDS programme or programmes - you may select more than one - with which you are involved, either as a developer or as a presenter:

Evaluating LDS LIVE: Questionnaire for LDS Team

- ☐ LDS Misneach Post-Primary
- ☐ LDS Misneach Primary
- ☐ LDS Forbairt Post-Primary
- ☐ LDS Forbairt Primary
- ☐ LDS Tánaiste Post-Primary
- ☐ LDS Tánaiste Primary
- ☐ LDS Cothú
- ☐ LDS Spreagadh
- ☐ Other (please specify)

4. Please indicate the type of school in which you work. In the case of LDS Fulltime Team Members, please indicate the school from which you have been seconded:

- ○ Primary School
- ○ Voluntary Secondary School
- ○ Community/Comprehensive School
- ○ Vocational School/Community College
- ○ Other (please specify)

5. Please indicate the position or role that you currently fulfil in the school. In the case of LDS Fulltime Team Members, please indicate the position from which you have been seconded:

- ○ Principal
- ○ Deputy Principal
- ○ Assistant Principal
- ○ Special Duties Teacher
- ○ Other (please specify)

Evaluating LDS LIVE: Questionnaire for LDS Team

LDS Objectives

6. Please rate the importance of each of the following school leadership activities and competencies:

	Uncertain	Not Important	Somewhat Important	Important	Very Important
Developing and sharing a distinctive vision for the school	○	○	○	○	○
Developing a leadership style that is characterised by ethical and moral standards	○	○	○	○	○
Ability to communicate clearly, both orally and in writing	○	○	○	○	○
Ability to develop, and work as part of, school-based teams	○	○	○	○	○
Maintaining a visible presence in classrooms	○	○	○	○	○
Maintaining a visible presence on school corridors and common areas	○	○	○	○	○
Initiating school-based research on effective school practices	○	○	○	○	○
Involving parents in the development of school plans and policies	○	○	○	○	○
Implementation of national policies of curriculum change and development	○	○	○	○	○
Engaging local community organisations and business in the development of school policies and curriculum	○	○	○	○	○
Developing programmes of school-based professional development for teachers	○	○	○	○	○
Developing systems of financial control	○	○	○	○	○
Developing links with institutions involved in education research to development leadership and teaching skills	○	○	○	○	○
Engaging teachers in studies of effective teaching	○	○	○	○	○
Developing a school library for staff containing educational research materials	○	○	○	○	○
Developing a library of subject resources and materials	○	○	○	○	○
Promoting the use of information and communication technology as a teaching and learning tool	○	○	○	○	○
Developing school-based systems of mentoring for staff development and support	○	○	○	○	○
Developing staff communication systems and conflict -resolution strategies	○	○	○	○	○
Engaging teachers in professional development programmes to prepare them for future school leadership roles	○	○	○	○	○

School Leadership Development

7. With respect to school leadership, please rate the effectiveness of the following as supports for the professional development of school leaders:

	Uncertain	Not Effective	Somewhat Effective	Effective	Very Effective
Participating in leadership development programmes such as Higher Diplomas and Masters programmes	○	○	○	○	○
Participating in in-service leadership development programmes of relatively short duration (for example 2 to 4 days per year)	○	○	○	○	○
Participating in a local cluster or network of school leaders meeting perhaps 4 to 6 times per year	○	○	○	○	○
Attending lectures or seminars hosted by Universities or Colleges	○	○	○	○	○
Discussing leadership issues with an experienced school leader	○	○	○	○	○
Having access to a library of resources or materials gathered from other school leaders	○	○	○	○	○
Undertaking personal research on educational issues	○	○	○	○	○
Reviewing texts and journals on educational research	○	○	○	○	○
Liaising with members of the Department of Education & Science's inspectorate	○	○	○	○	○
Membership of professional representative bodies such as NAPD, IPPN, or PDA.	○	○	○	○	○
Membership of a trade union organisation	○	○	○	○	○
Email communication with other school leaders	○	○	○	○	○
Online (computer-based) discussions with researchers, writers or authorities on education	○	○	○	○	○
Participation in an online or virtual environment in collaboration with other school leaders	○	○	○	○	○
Written correspondence with other school leaders	○	○	○	○	○
Telephone communication with other school leaders	○	○	○	○	○
Subscription to educational journals or other research materials	○	○	○	○	○
Reading of educational supplements or sections in newspapers	○	○	○	○	○
Face-to-face meetings with other school leaders - perhaps 3 to 4 times per year - as part of a professional network	○	○	○	○	○

Information and Communication Technology

8. Please indicate which of the following are available to you either in your home or in your school:

- ☐ Personal or desktop computer
- ☐ Laptop or notebook computer
- ☐ Personal Digital Assistant or handheld computer
- ☐ Other (please specify)

School Internet Access

9. Do you have access to the internet in your school?

- ○ Yes
- ○ No

School Internet Access Details

10. Please indicate the type of internet connection you have access to in your school:

- ○ 28.8 Kbps modem
- ○ 56 Kbps modem
- ○ ISDN
- ○ Broadband
- ○ Do not know
- ○ Other (please specify)

Evaluating LDS LIVE: Questionnaire for LDS Team

Home Internet Access

11. Do you have access to the internet in your home?

- ○ Yes
- ○ No

Home Internet Access Details

12. Please indicate the type of internet connection you have access to in your home:

- ○ 28.8 Kbps modem
- ○ 56 Kbps modem
- ○ ISDN
- ○ Broadband
- ○ Do not know
- ○ Other (please specify)

Application of Technology

13. Please indicate approximately how frequently you undertake the following IT-related activities:

	Never	Rarely (once per year)	Occasionally (once per month)	Frequently (once per week)	Very Frequently (once per day)
Use a word processing package to prepare a letter or report	○	○	○	○	○
Use a presentation package (e.g. PowerPoint) while addressing a meeting or gathering	○	○	○	○	○
Access a website for information gathering or research purposes	○	○	○	○	○
Send or reply to an email	○	○	○	○	○
Access an online forum or online learning community	○	○	○	○	○
Use a computer to access school-related data such as timetable details or student records	○	○	○	○	○
Use a drawing, graphics or photo-editing application	○	○	○	○	○

Online or Virtual Learning Environments

14. Please rate the importance of the following goals for the development of a virtual learning environment for school leadership development:

	Uncertain	Not Important	Somewhat Important	Important	Very Important
Providing access to Department of Education Science documents and forms	○	○	○	○	○
Providing school leaders with a forum to discuss issues with leaders in other schools	○	○	○	○	○
Providing access to educational journals and research	○	○	○	○	○
Supporting the development of 'reflective practice' as a professional development activity	○	○	○	○	○
Providing access to 'expert peers' or 'mentors'	○	○	○	○	○
Supporting the planning and development work of the LDS team	○	○	○	○	○
Facilitating the processing of administrative requirements such as travel expenses etc.	○	○	○	○	○
Supporting the development of professional development portfolios	○	○	○	○	○
Providing a forum for school leaders to engage in protected or private dialog on	○	○	○	○	○

Evaluating LDS LIVE: Questionnaire for LDS Team

Developing a library of templates for school policies documents	○	○	○	○	○
	○	○	○	○	○

15. What, in your view, is the most significant contribution the use of a virtual learning environment can make to the professional development of school leaders?

16. Other than LDS LIVE have you used or accessed an online or virtual learning environment before?

○ Yes ○ No

17. If the answer to Question 16 above is 'Yes', please give a brief outline of the online or virtual learning environment that you have previously used.

Leadership Issues

18. With respect to school leadership, please rate the effectiveness of the following as supports for the professional development of newly-appointed school leaders:

	Uncertain	Not Effective	Somewhat Effective	Effective	Very Effective
Participating in leadership development programmes such as Higher Diplomas and Masters programmes	○	○	○	○	○
Participating in in-service leadership development programmes of relatively short duration, for example, 2 to 4 days per year	○	○	○	○	○
Participating in a local cluster or network of school leaders, meeting perhaps 4 to 6 times per year	○	○	○	○	○
Attending lectures or seminars hosted by Universities or Colleges	○	○	○	○	○
Discussing leadership issues with an experienced school leader	○	○	○	○	○
Having access to a library of resources or materials gathered from other school leaders	○	○	○	○	○
Participating in an online or virtual learning community	○	○	○	○	○

19. Briefly outline the approaches or strategies that you regard as being most effective in supporting the professional development of newly-appointed school leaders

Thank you.

Thank you for completing this online questionnaire.

10 References

Allix, N., & Gronn, P. (2005), 'Leadership' as a Manifestation of Knowledge, *Educational Management Administration Leadership, 33*(2), 181-196.

Apple, M. W., & Weis, L. (1983), *Ideology & Practice in Schooling*, Philadelphia: Temple University Press.

Argyris, C. (1980), *Inner Contradictions of Rigorous Research*, New York ; London: Academic Press.

Argyris, C. (1999), *On Organizational Learning* (2nd ed.), Oxford: Blackwell Business.

Argyris, C. (2004), *Reasons and Rationalizations : The Limits to Organizational Knowledge*, Oxford: Oxford University Press.

Argyris, C., Putnam, R., & Smith, D. M. (1985), *Action Science*, San Francisco ; London: Josey-Bass.

Argyris, C., & Schön, D. A. (1974), *Theory in Practice: Increasing Professional Effectiveness*, San Francisco: Josey-Bass.

Argyris, C., & Schön, D. A. (1991), Participatory Action Research and Action Science Compared: A Commentary, in Foote Whyte, W. (Ed.), *Participatory Action Research* (pp. 85-96). London: Sage.

Arvey, R. D., Rotundo, M., Johnson, W., Zhang, Z., & McGue, M. (2006), The Determinants of Leadership Role Occupancy: Genetic and Personality Factors, *The Leadership Quarterly, 17*(1), 1.

Ashford, A. N., & Deering, P. D. (2003), *Middle Level Teacher Preparation: The Impact of the Portfolio Experience on Teachers' Professional Development. Access Eric: Fulltext* (143 Reports--Research; 150 Speeches/Meeting Papers). Hawaii.

Atkins, S., & Murphy, K. (1993), Reflection: A Review of the Literature, *Journal of Advanced Nursing, 18*(8), 1188-1193.

Barbour, M., & Rich, P. (2007), Social Constructivist E-Learning: A Case Study, *International Electronic Journal For Leadership in Learning* (Vol. 11). Calgary: University of Clagary Press.

Bass, B. M. (1990), From Transactional to Transformational Leadership: Learning to Share the Vision, *Organisational Dynamics, 18*(3).

Bassey, M. (1999), *Case Study Research in Educational Settings*, Buckingham: Open University Press.

Bennett, N., Wise, C., Woods, P., & Harvey, J. A. (2003), *Distributed Leadership*: National College for School Leadership.

Best, J. W., & Kahn, J. V. (1989), *Research in Education* (6 ed.), London: Allyn & Bacon.

Blase, J., & Anderson, G. (1995), *The Micropolitics of Educational Leadership: From Control to Empowerment*, London: Cassell.

Boal, K. B., & Schultz, P. L. (2007), Storytelling, Time, and Evolution: The Role of Strategic Leadership in Complex Adaptive Systems, *The Leadership Quarterly, 18*(4), 411-428.

Bolden, R., Gosling, J., Marturano, A., & Dennison, P. (2003), *A Review of Leadership Theory and Competency Frameworks*: University of Exeter Centre for Leadership Studies.

Bottery, M. (1992), *The Ethics of Educational Management*, London: Cassell.

Boud, D., & Walker, D. (1998), Promoting Reflection in Professional Courses: The Challenge of Context, *Studies in Higher Education*.

Briggs, A. R. J., & Coleman, M., Eds. (2007). *Research Methods in Educational Leadership and Management*. London, Sage.

Britain, S., & Liber, O. (1999), A Framework for Pedagogical Evaluation of Virtual Learning Environments,

Burns, J. M. (1978), *Leadership*, New York [etc.] ; London: Harper and Row.

Bush, T. (2003), *Theories of Educational Leadership and Management* (3rd ed.), London: Sage.

Bush, T., & Glover, D. (2003), *School Leadership: Concepts and Evidence*: National College for School Leadership.

Bush, T., & Jackson, D. (2002), Preparation for School Leadership: International Perspectives, *Educational Management Administration Leadership, 30*(4), 417-429.

Casavant, M. D. (2001), Effective Leadership: Bringing Mentoring and Creativity to the Principalship, *National Association of Secondary School Principals Bulletin, 85*(624).

Cohen, L., Manion, L., & Morrison, K. (2006), *Research Methods in Education* (5th ed.), London: Routledge-Falmer.

Cole, M., & Engeström, Y. (1993), A Cultural-Historical Approach to Distributed Cognition, in Salmon, G. (Ed.), *Distributed Cognitions: Psychological and Educational Considerations* (pp. 1-46). New York: Cambridge University Press.

Coolahan, J. (1981), *Irish Education: Its History and Structure*, Dublin: IPA.

Coolahan, J., Ed. (1994). *Report on the National Education Convention*. Dublin, National Education Convention Secretariat.

Covey, S. R. (1989), *The Seven Habits of Highly Effective People*, London: Simon & Schuster.

Cowie, M., & Crawford, M. (2007), Principal Preparation- Still an Act of Faith?, *School Leadership & Management, 27*(2), 129 - 146.

Cromien, S. (2000), *Department of Education and Science: Review of Department's Operations, Systems and Staffing Needs*. Dublin: Department of Education & Science.

Currie, G., & Lockett, A. (2007), A Critique of Transformational Leadership: Moral, Professional and Contingent Dimensions of Leadership within Public Services Organizations, *Human Relations, 60*(2), 341-370.

Dalsgaard, C., & Godsk, M. (2007), Transforming Traditional Lectures into Problem-Based Blended Learning: Challenges and Experiences, *Open Learning, 22*(1), 29-42.

Daresh, J. (2004), Mentoring School Leaders: Professional Promise or Predictable Problems?, *Educational Administration Quarterly, 40*(4), 495-517.

Davis, H. C., & Fill, K. (2007), Embedding Blended Learning in a Universitys Teaching Culture: Experiences and Reflections, *British Journal of Educational Technology, 38*(5), 817-828.

Day, C. (1999), Professional Development and Reflective Practice: Purposes, Processes and Partnerships, *Pedagogy, Culture & Society, 7*(2), 221-233.

de Valera, S. (1992), Dáil Éireann Parliamentary Debates Volume 423 - 16 October, 1992: Green Paper on Education: Statements., from http://historical-debates.oireachtas.ie/D/0423/D.0423.199210160003.html

De Wever, B., Schellens, T., Valcke, M., & Van Keer, H. (2006), Content Analysis Schemes to Analyze Transcripts of Online Asynchronous Discussion Groups: A Review, *Computers & Education, 46*(1), 6.

Department for Education and Skills. (2004), National Standards for Headteachers. Nottingham: Department for Education and Skills.

Department of Education & Science. (1998), *Circular Letter 04/98: Revised in-School Management Structures in Secondary Schools*, Ireland: http://www.education.ie/servlet/blobservlet/ppc04_98.doc.

Department of Education & Science. (1999a), *Circular Letter M20/99: School Development Planning*, Dublin: Government of Ireland.

Department of Education & Science. (1999b), *Report of the Working Group on the Role of the Primary School Principal*. Dublin.

Department of Education & Science. (2002), *Circular Letter 02/02: Appointment of Principal Teachers*, Dublin: Government of Ireland.

Department of Education & Science. (2003), *Circular 07/03: Appointment to Posts of Responsibility*, Dublin: Government of Ireland.

Dewey, J. (1910), How We Think, *Great Books in Philosphy* Retrieved 30/03/2005, from http://www.brocku.ca/MeadProject/Dewey/Dewey_1910a/Dewey_1910_a.html

Dixon, R., & Dixon, K. (2002), The Professional Electronic Leadership Portfolio: Towards a Conceptual Framework.

Doolittle, P. (1994), Teacher Portfolio Assessment, *Practical Assessment, Research & Evaluation*.

Drea, E., & O'Brien, J. (2003), *Defining the Role of the Primary Principal*. Dublin: Hay Group Management Consultants.

Drudy, S., & Lynch, K. (1993), *Schools and Society in Ireland*, Dublin: Gill & Macmillan.

Eby, L. T., McManus, S. E., Simon, S. A., & Russell, J. E. A. (2000), The Protege's Perspective Regarding Negative Mentoring Experiences: The Development of a Taxonomy, *Journal of Vocational Behavior, 57*(1), 1-21.

Ehrich, L. C., Hansford, B., & Tennent, L. (2004), Formal Mentoring Programs in Education and Other Professions: A Review of the Literature, *Educational Administration Quarterly, 40*(4), 518-540.

Eikeland, O. (2006), Condescending Ethics and Action Research, *Action Research, 4*(1), 37-47.

Emanuelsson, J., & Sahlström, F. (2008), The Price of Participation: Teacher Control Versus Student Participation in Classroom Interaction, *Scandinavian Journal of Educational Research, 52*(2), 205 - 223.

Eraut, M. (1994), *Developing Professional Knowledge and Competence*, New York: Routledge-Falmer.

Fiedler, F. E. (1967), *A Theory of Leadership Effectiveness*, New York ; London: McGraw-Hill.

Fielding, M. (2001), Learning Organisation of Learning Commuity? A Critique of Senge, *Reason in Practice: Journal of the Philosophy of Management, 1*(2), 1-16.

Fitzpatrick, R. J. (2007), Improving School Leadership: Country Background Report for Northern Ireland, Retrieved 21/05, 2008, from http://www.oecd.org/dataoecd/29/59/38752145.pdf

Foote Whyte, W., Ed. (1991). *Participatory Action Research*. London, Sage Publications.

Foote Whyte, W., Greenwood, D. J., & Lazes, P. (1991), Participatory Action Research: Through Practice to Science in Social Research, in Foote Whyte, W. (Ed.), *Participatory Action Research*. London: Sage.

Foskett, N., Lumby, J., & Fidler, B. (2005), Evolution or Extinction?: Reflections on the Future of Research in Educational Leadership and Management, *Educational Management Administration Leadership, 33*(2), 245-253.

Fullan, M. (1993), *Change Forces: Probing the Depths of Educational Reform*, London: Falmer Press.

Fullan, M. (2001), *Leading in a Culture of Change* (1st ed ed.), San Francisco: Jossey-Bass.

Fullan, M. (2003), *The Moral Imperative of School Leadership*, London: Ontario Principals' Council/Sage.

Fullan, M. (2005a), *Leadership & Sustainability: System Thinkers in Action*, London: Corwin Press.

Fullan, M. (2005b), Learning to Lead Change: Building System Capacity (Seminar Guide). Dublin: Leadership Development for Schools/Microsoft Ireland.

Garrison, D. R., & Anderson, T. (2003), *E-Learning in the 21st Century: A Framework for Research and Practice*, New York: Routledge Falmer.

Garrison, R. D., Anderson, T., & Archer, W. (1999), Critical Inquiry in a Text-Based Environment: Computer Conferencing in Higher Education, *The Internet and Higher Education, 2*(2-3), 87-105.

Gelter, H. (2003), Why Is Reflective Thinking Uncommon?, *Reflective Practice, 4*(3), 337-344.

Gibson, D. (2000, 04/11/2004), Complexity Theory as a Leadership Framework, from http://www.vismt.org/pub/ComplexityandLeadership.pdf

Goodson, I. F. (1994), *Studying Curriculum*, Bermingham: Open University Press.

Gorard, S. (2005), Current Contexts for Research in Educational Leadership and Management, *Educational Management Administration Leadership, 33*(2), 155-164.

Government of Ireland. (1992), *Education for a Changing World: Green Paper on Education*: Government of Ireland.

Government of Ireland. (1995), *Charting Our Education Future: White Paper on Education*: Government of Ireland.

Government of Ireland. (1998), *Education Act 1998*: Government of Ireland.

Government of Ireland. (2000a), *Education (Welfare) Act*, Dublin: Government of Ireland.

Government of Ireland. (2000b), *Programme for Prosperity and Fairness*, Dublin: Government of Ireland.

Granville, S., & Bell, J. (2006), *Evaluation of 'Heads Together'*. Edinburgh: George Street Research.

Grogan, M., & Andrews, R. (2002), Defining Preparation and Professional Development for the Future, *Educational Administration Quarterly, 38*(2), 233-256.

Grogan, M., & Simmons, J. (2007), Taking a Critical Stance in Research, in Briggs, A. R. J. & Coleman, M. (Eds.), *Research Methods in Educational Leadership and Management* (2nd ed.). London: Sage.

Gunawardena, C., Lowe, C., & Anderson, T. (1997), Analysis of a Global Online Debate and the Development of an Interaction Analysis Model for Examining Social Construction of Knowledge in Computer Conferencing, *Journal of Educational Computing Research, Vol. 17*(17), 397-431.

Hammersley, M., & Woods, P., Eds. (1993). *Life in School*. Milton Keynes, Open University Press.

Hargreaves, A. (1992), Cultures of Teaching: A Focus for Change, in Hargreaves, A. & Fullan, M. (Eds.), *Understanding Teacher Development* (pp. 216 - 240). New York: Teachers College Press.

Hargreaves, A., & Fink, D. (2003), The Seven Principles of Sustainable Leadership, *Educational Leadership* Retrieved 02-03-2006, from http://www2.bc.edu/~hargrean/docs/seven_principles.pdf

Hargreaves, A., & Fink, D. (2006), *Sustainable Leadership*, San Francisco: Jossey-Bass.

Harris, S., Ballenger, J., & Leonard, J. (2004), Aspiring Principal Perceptions: Are mentor Principals Modeling Standards-Based Leadership?, *Mentoring & Tutoring: Partnership in Learning, 12*(2), 155-172.

Harrison, F. L., & Lock, D. (2004), *Advanced Project Management : A Structured Approach* (4th ed / ed.), Aldershot: Gower.

Henri, F. (1992), Computer Conferencing and Content Analysis, in Kaye, A. R. (Ed.), *Collaborative Learning through Computer Conferencing*. Berlin: Springer-Verlag.

Herr, K., & Anderson, G. (2005), *The Action Research Dissertation: A Guide for Students and Faculty*, London: Sage.

Hew, K. F., & Cheung, W. S. (2003), Models to Evaluate Online Learning Communities of Asynchronous Discussion Forums, *Australian Journal of Educational Technology, Vol. 19*(2), 241-259.

Highan, R., Hopkins, D., & Ahtaridou, E. (2007), Improving School Leadership: Country Background Report for England, Retrieved 21/05, 2008, from http://www.oecd.org/dataoecd/33/45/39279379.pdf

Hobson, A. J. (2003), *Mentoring and Coaching for New Leaders*. Nottingham: National College for School Leadership.

Hogan, P. (1995), *The Custody and Courtship of Experience: Western Education in Philosophical Perspective*, Dublin: The Columba Press.

Hom, A. (1997), The Power of Teacher Portfolio for Professional Development, Retrieved 28/04/2001, from http://www.teachnet.org/ntpi/research/growth/hom.htm

Hopkins, D. (2007), System Leadership, Retrieved 21/7, 2008, from http://www.ssat-inet.net/whatwedo/leadership/systemleadership.aspx

Hord, S. M. (1997), *Professional Learning Communities: Communities of Continuous Inquiry and Improvement*: Southwest Educational Development Lab., Austin, TX.

Hord, S. M. (1998), *Creating a Professional Learning Community: Cottonwood Creek School* (No. 6): Southwest Educational Development Lab., Austin, TX.

Hord, S. M. (2007), *Learn in Community with Others* (No. 28).

Huberman, M. (1989), *The Lives of Teachers*, London: Cassell.

Hughes, G. (2007), Using Blended Learning to Increase Learner Support and Improve Retention, *Teaching in Higher Education, 12*(3), 349-363.

Interstate School Leaders' Licensure Consortium. (2003), The Isllc Standards, Retrieved 04/02, 2007, from http://www.ccsso.org/projects/education_leadership_initiatives/ISLLC_Standards/

Johnson, R. B., & Onwuegbuzie, A. J. (2004), Mixed Methods Research: A Research Paradigm Whose Time Has Come, *Educational Researcher, 33*(7), 14-26.

Kelly, P., Gale, K., Wheeler, S., & Tucker, V. (2007), Taking a Stance: Promoting Deliberate Action through Online Postgraduate Professional Development, *Technology, Pedagogy and Education, 16*(2), 153 - 176.

Kemmis, S. (2006), Participatory Action Research and the Public Sphere, *Educational Action Research, 14*(4), 459 - 476.

King, J. E. (2004), Software Solutions for Obtaining a Kappa-Type Statistic for Use with Multiple Raters, *Southwest Educational Research Association*. Dallas, Texas.

Kirschner, P. A., & Lai, K.-W. (2007), Online Communities of Practice in Education, *Technology, Pedagogy and Education, 16*(2), 127 - 131.

Krippendorff, K. (2004), Measuring the Reliability of Qualitative Text Analysis Data, *Quality and Quantity, 38*(6), 787-800.

Lambert, L. (2002), Towards a Deepened Theory of Constructivist Leadership, in Lambert, L., Walker, D., Zimmerman, D. P., Cooper, J., Lambert, M. D., Gardner, M. E. & Szabo, M. (Eds.), *The Constructivist Leader* (2nd ed.). London: Teachers College Press.

Lambert, L., Walker, D., Zimmerman, D. P., & Cooper, J. (2002), *The Constructivist Leader* (2nd ed.), New York: Teachers College Press.

Landis, J. R., & Koch, G. G. (1977), The Measurement of Observer Agreement for Categorical Data, *Biometrics, 33*, 159-174.

Lave, J., & Wenger, E. (1991), *Situated Learning : Legitimate Peripheral Participation*, Cambridge [England] ; New York: Cambridge University Press.

Leadership Development for Schools. (2002), *School Leadership: A Profile*: Clare Education Centre.

Leadership Development for Schools. (2003a), *A Framework for the Professional Development of Irish School Leaders*: Clare Education Centre.

Leadership Development for Schools. (2003b), *Misneach: A Programme for the Professional Development of Irish School Leaders*: Clare Education Centre.

Leadership Development for Schools. (2006), Lds Misneach Module Materials (Unpublished).

Leadership Development for Schools. (2007), *Improving School Leadership: Country Background Report - Ireland*. Dublin.

Leithwood, K., Harris, A., & Hopkins, D. (2008), Seven Strong Claims About Successful School Leadership, *School Leadership and Management, 28*(1), 27 - 42.

Levacic, R. (2005), Educational Leadership as a Causal Factor: Methodological Issues in Research on Leadership 'Effects', *Educational Management Administration Leadership, 33*(2), 197-210.

Lin, F.-r., Lin, S.-c., & Huang, T.-p. (2008), Knowledge Sharing and Creation in a Teachers' Professional Virtual Community, *Computers & Education, 50*(3), 742-756.

Luhmann, N. (1990), The Cognitive Programme of Constructivism and a Reality That Remains Unknown, in Krohn, W., Kuppers, G. & Nowotny, H. (Eds.), *Selforganisation: Portrait of a Scientific Revolution*. Dordrecht: Kluwer Academic Publishers.

Lyle, S., & Hendley, D. (2007), Can Portfolios Support Critical Reflection? Assessing the Portfolios of Schools Liaison Police Officers, *Journal of In-service Education, 33*(2), 189-207.

Lynch, K. (1989), *The Hidden Curriculum: Reproduction in Education, an Appraisel*, Lewes: Falmer Press.

Lyotard, J. F. (1994), *The Postmodern Condition: A Report on Knowledge*, Manchester: Manchester City Press.

Mansfield, D. (2003), Complexity Theory and Educational Leadership, Retrieved 04/11/2004, from http://www.ncsl.org.uk/mediastore/image2/randd-practitioner-award-mansfield.pdf

Mansvelder, L. D. D., Beijaard, D., & Verloop, N. (2007), The Portfolio as a Tool for Stimulating Reflection by Student Teachers, *Teaching and Teacher Education, 23*(1), 47-62.

Martin, M. (1998), Press Release: 11 March, 1998 - Minister Names Schools for Pilot Project on Whole School Evaluation, Retrieved 21/09, 2007, from http://www.education.ie/robots/view.jsp?pcategory=10861&language=EN&ecategory=40208&link=link001&doc=14194

Marton, F., & Booth, S. (1997), *Learning and Awareness*: Lawrence Erlbaum Associates.

McGregor, D. (1960), *The Human Side of Enterprise*, New York ; London: McGraw-Hill.

McKernan, J. (1999), *Curriculum Action Research: A Handbook of Methods for the Reflective Practitioner* (2nd ed.), London: Kogan Page.

Mercer, J. (2007), The Challenges of Insider Research in Educational Institutions: Wielding a Double-Edged Sword and Resolving Delicate Dilemmas, *Oxford Review of Education, 33*(1), 1-17.

Mertz, N. T. (2004), What's a Mentor, Anyway?, *Educational Administration Quarterly, 40*(4), 541-560.

Moon, J. A. (1999), *Relection in Learning & Professional Development*, London: Routledge Falmer.

Moon, J. A. (2006), *Learning Journals: A Handbook for Reflective Practice and Professional Development* (2nd ed.), London: Routledge.

Moore, J. A., & Chae, B. (2007), Beginning Teachers' Use of Online Resources and Communities, *Technology, Pedagogy and Education, 16*(2), 215 - 224.

Morley, M., Moore, S., Heraty, N., & Gunnigle, P. (1998), *Principles of Organisational Behaviour: An Irish Text*, Dublin: Gill & Macmillan.

Morrison, K. (2002), *School Leadership and Complexity Theory*, London: RoutledgeFalmer.

Morrison, M. (2007), What Do We Mean by Educational Research?, in Briggs, A. R. J. & Coleman, M. (Eds.), *Research Methods in Educational Leadership and Management* (2nd Edition ed.). London: Sage.

Mumford, M. D., Marks, M. A., Connelly, M. S., Zaccaro, S. J., & Reiter-Palmon, R. (2000), Development of Leadership Skills: Experience and Timing, *The Leadership Quarterly, 11*(1), 87.

Mumford, M. D., Zaccaro, S. J., Harding, F. D., Jacobs, T. O., & Fleishman, E. A. (2000), Leadership Skills for a Changing World: Solving Complex Social Problems, *The Leadership Quarterly, 11*(1), 11.

Murgatroyd, S., & Morgan, C. (1993), *Total Quality Management and the School*, Buckingham: Open University Press.

National Centre for Technology in Education. (2005), *Invitation to Tender for Systems Integration Services of a Virtual Learning Environment*. Dublin: National Centre for Technology in Education.

National College for School Leadership. (2005), Coaching and Mentoring Vital in Securing Lasting Leadership Legacy – Ncsl Guide, Retrieved 21/04/2007, from http://www.ncsl.org.uk/aboutus-index/press_office-index/pressoffice-pressreleases/pressreleases-2005.htm?id=13883

National College for School Leadership. (2006), Blended Learning -Rational and Considerations for Blended Laerning, from http://forms.ncsl.org.uk/mediastore/image2/facilitatorstoolkit/blended_04.htm

National College for School Leadership. (2007), 100,000 Heads Are Better Than One: Lessons from the World's Largest Online Community for School Leaders. Nottingham: National College for School Leadership.

National College for School Leadership. (Not dated), 100,000 Heads Are Better Than One: Lessons from the World's Largest Online Community for School Leaders. Nottingham: National College for School Leadership.

New Zealand Ministry of Education. (2007a), Got a Minute? Can Instructional Leadership Exist Despite the Reactive Nature of the Principalship?, Retrieved 04/06, 2008, from http://www.leadspace.govt.nz/leadership/articles/instructional-leadership-despite-principalship.php

New Zealand Ministry of Education. (2007b), Improving School Leadership: Country Background Report for New Zealand.

New Zealand Ministry of Education. (2008), *Kiwi Leadership for Principals: Principals as Educational Leaders*. Wellington: New Zealand Ministry of Education.

Newman, D. R., Johnson, C., Webb, B., & Cochrane, C. (1997), Evaluating the Quality of Learning in Computer Supported Co-Operative Learning, *Journal of the American Society for Information Science, 48*(6), 484 - 495.

Newman, D. R., Webb, B., & Cochrane, C. (1996), A Content Analysis Method to Measure Critical Thinking in Face-to-Face and Computer Supported Group Learning: Queen's University Belfast.

Northouse, P. G. (2004), *Leadership: Theory and Practice* (3rd ed.), London: Sage.

O'Leary, D., & Craig, J. (2007), *System Leadership*. Nottingham: NAtional College for School Leadership.

O'Sullivan, D. (1989), The Ideational Base of Irish Education, in O'Sullivan, D. & Mulcahy, D. G. (Eds.), *Irish Educational Policy: Process & Substance*. Dublin: IPA.

O'Toole, R. (2002), *Using Information & Communication Technology to Support Reflective Practice and Self-Evaluation in Teaching: Towards the Development of a Digital Portfolio Aid (Unpublished M. Sc. Dissertation).* Dublin University, Dublin.

O'Toole, R. (2004), Professional Development for School Leaders: A Review of Virtual Learning Environments: Leadership Deveopment for Schools.

Oakeshott, M. (1981, original 1962), *Rationalism in Politics : And Other Essays*, London: Methuen.

Oliver, M., & Trigwell, K. (2005), Can 'Blended Learning' Be Redeemed?, *E-Learning, Vol. 2*(1), 17-26.

Organisation for Economic Co-operation and Development. (1991), *Reviews of National Policies for Education: Ireland.*

Orland-Barak, L. (2005), Portfolios as Evidence of Reflective Practice: What Remains Untold, *Educational Research, 47*(1), 25 - 44.

Pavlou, D. (2004), *Teacher Leaders and Reflective Practitioners: Building the Capacity of a School to Improve by Promoting Research and Reflection*. Nottingham: National College for School Leadership.

Peterson, K. (2002), The Professional Development of Principals: Innovations and Opportunities, *Educational Administration Quarterly, 38*(2), 213-232.

Plowman, D. A., Solansky, S., Beck, T. E., Baker, L., Kulkarni, M., & Travis, D. V. (2007), The Role of Leadership in Emergent, Self-Organization, *The Leadership Quarterly, 18*(4), 341-356.

Polanyi, M. (1969), *Personal Knowledge : Towards a Post-Critical Philosophy*, London: Routledge & Kegan Paul.

Portin, B., Schneider, P., DeArmond, M., & Gundlach, L. (2003), *Making Sense of Leading Schools: A Study of the School Principalship* (143 Reports--Research). Washington: Washington Univ., Seattle. Center on Reinventing Public Education.

Preece, J., & Maloney-Krichmar, D. (2005), Online Communities: Design, Theory, and Practice, *Journal of Computer-Mediated Communication, 10*(4).

Prestine, N. A., & Scott Nelson, B. (2005), How Can Educational Leaders Support and Promote Teaching and Learning? New Conceptions of Learning and Leading in Schools, in Firestone, W. A. & Riehl, C. (Eds.), *A New Agenda for Research in Educational Leadership*. London: Teachers College Press.

Ramondt, L., Chapman, C., & Powell, S. (2002), Talking Heads Report, Retrieved 20/01/2004, from http://intra.ultralab.net/~leonie/cothsreport02/index.html

Randolph, J. (2008), Online Kappa Calculator, Retrieved 02/06/2008, from http://justus.randolph.name/kappa

Ross, M. M. B., & Welsh, M. P. (2007), Reflective Practitioners in First Year? E-Portfolios as an Effective Tool to Promote Formative Assessment, 16.

Rourke, L., Anderson, G., Garrison, G. R., & Archer, W. (2001), Methodological Issues in the Content Analysis of Computer Conference Transcripts, *International Journal of Artificial Intelligence in Education* (Vol. 12, pp. 8-22).

Ruane, Willie. (1992), The Green Paper: An Asti View, *Irish Education Decision Maker*(6), 21 - 24.

Runesson, U. (2005), Beyond Discourse and Interaction. Variation: A Critical Aspect for Teaching and Learning Mathematics, *Cambridge Journal of Education, 35*(1), 69 - 87.

Russell, A., & Thompson, K. (2002), Talking Heads-Its Progress-Transfer to Wales and Scotland and Relevance to the Republic of Ireland, *Association of Information Technology for Teacher Education Conference 2002*. Trinity College, Dublin, Ireland.

Ryle, G. (2000; original 1949), *The Concept of Mind*, London: Penguin.

Schön, D. A. (1983), *The Reflective Practitioner : How Professionals Think in Action*, New York: Basic Books.

Schön, D. A. (1987), *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions.* (010 Books; 055 Guides--Nonclassroom). Massachusetts.

Schön, D. A., Ed. (1991). *The Reflective Turn*. London, Teachers College Press.

Schrire, S. (2006), Knowledge Building in Asynchronous Discussion Groups: Going Beyond Quantitative Analysis, *Computers & Education, 46*(1), 49.

Schwartz, S. (2003), The Professional Portfolio: A Tool for Reflective Practice.

Senge, P. M. (1992), *The Fifth Discipline : The Art and Practice of the Learning Organization*: Business Books (Random Century Group).

Sergiovanni, T. J. (1990), *Value-Added Leadership: How to Get Extraordinary Performance in Schools*, London: HBJ.

Sergiovanni, T. J. (2001), *The Principalship: A Reflective Practice Perspective* (4th ed.), Boston: Allyn & Brown.

Shay, J. (2000), Aristotle's Rhetoric as a Handbook of Leadership, Retrieved 21/01/2006, from http://www.d-n-i.net/fcs/aristotle.htm#2.

Sim, J., & Wright, C. C. (2005), The Kappa Statistic in Reliability Studies: Use, Interpretation, and Sample Size Requirements *Journal of Physical Therapy, 85*(3), 257-268.

Smyth, E. (1999), *Do School Differ? Academic and Personal Achievement among Pupils in the Second-Level Sector*, Dubin: Oak Tree Press.

Sparrowe, R. T. (2005), Authentic Leadership and the Narrative Self, *The Leadership Quarterly, 16*(3), 419.

Stiles, M. J. (2002). *Strategic and Pedagogic Requirements for Virtual Learning in the Context of Widening Participation.* Paper presented at the At the Interface-Virtual Learning and Higher Education, Mansfield College, University of Oxford.

Stogdill, R. M. (1974), *Handbook of Leadership : A Survey of Theory and Research*, London: Collier Macmillan.

Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. (2006), Professional Learning Communities: A Review of the Literature, *Journal of Educational Change, 7*(4), 221-258.

Stoll, L., & Fink, D. (1996), *Changing Our Schools*, Buckingham: Open University Press.

Sugrue, C. (1999), Primary Principals' Perspectives on School Evaluation: Implications for Professional Development, *The Journal of Irish Education, 30*, 51-76.

Sugrue, C. (2003), Principal's Professional Development: Realities, Perspectives and Possibilities, *Oideas, 50*(Spring), 8-39.

Sugrue, C., & Furlong, C. (2002), The Cosmologies of Irish Primary Principals' Identities: Between the Modern and the Postmodern?, *International Journal of Leadership in Education, 5*(5), 189-210.

Sun, P.-C., Tsai, R. J., Finger, G., Chen, Y.-Y., & Yeh, D. (2008), What Drives a Successful E-Learning? An Empirical Investigation of the Critical Factors Influencing Learner Satisfaction, *Computers & Education, 50*(4), 1183-1202.

Szabo, M., & Lambert, L. (2002), The Preparation of New Constructivist Leaders, in Lambert, L., Walker, D., Zimmerman, D. P., Cooper, J., Lambert, M. D., Gardner, M. E. & Szabo, M. (Eds.), *The Constructivist Leader*. London: Teachers COllege Press.

Tartwijk, J. v., Driessen, E. W., Vleuten, C. P. M. v. d., & Stokking, K. M. (2007), Factors Influencing the Successful Introduction of Portfolios, *Quality in Higher Education, 13*(1), 69-79.

Teddlie, C. (2005), Methodological Issues Related to Causal Studies of Leadership: A Mixed Methods Perspective from the USA, *Educational Management Administration Leadership, 33*(2), 211-227.

Thrupp, M. (2004), The National College for School Leadership: A Critique, Retrieved 19/01/2005, 2005, from http://www.soc-for-ed-studies.org.uk/pdfs/thrupp.pdf

Travers, J., & McKeown, P. (2005), Preparation for the Leadership of Professional Staff: A Critique of the Misneach Programme, *Irish Educational Studies, 24*(1), 41-53.

Tucker, P. D., Stronge, J. H., Gareis, C. R., & Beers, C. S. (2003), The Efficacy of Portfolios for Teacher Evaluation and Professional Development: Do They Make a Difference?, *Educational Administration Quarterly, 39*(5), 572-602.

Uebersax, J. (2002), Kappa Coefficients, Retrieved 02/06/2008, from http://ourworld.compuserve.com/homepages/jsuebersax/kappa.htm#procon

Uhl-Bien, M., Marion, R., & McKelvey, B. (2007), Complexity Leadership Theory: Shifting Leadership from the Industrial Age to the Knowledge Era, *The Leadership Quarterly, 18*(4), 298-318.

Wenger, E. (1998), *Communities of Practice : Learning, Meaning, and Identity*, Cambridge: Cambridge University Press.

White, D. (2002), Reflective Practice: Wishful Thinking or a Practical Leadership Tool?, *The Vision and the Reality: International Conference to Study the Issues and Challenges Facing Catholic Educational Leadership*. Sydney.

Whitelock, D., & Jelfs, A. (2003), Editorial: Journal of Educational Media Special Issue on Blended Learning, *Journal of Educational Media, 28*, 99-100.

Williams, P. L. (1998), Using Theories of Professional Knowledge and Reflective Practice to Influence Educational Change, *Medical Teacher, 20*(1), 28 - 34.

Wright, N. (2001), Leadership, 'Bastard Leadership' and Managerialism: Confronting Twin Paradoxes in the Blair Education Project, *Educational Management, Administration and Leadership, 29*(3), 275-290.

Xu, J. (2003), Promoting School-Centered Professional Development through Teaching Portfolios: A Case Study, *Journal of Teacher Education, 54*(4), 347.

Zammit, K., Sinclair, C., Cole, B. M., Singh, M., Costley, D., Brown a'Court, L., et al. (2007), *Teaching and Leading for Quality Australian Schools*. Sydney: University of Western Sydney.