

The Perceptions of a Student Teacher on Implementing Active Learning with Junior Cycle Students

Sandra Dunne

*Bachelor of Arts in Education, Business Studies and Accounting
Mary Immaculate College, Thurles*



Sandra Dunne recently completed a Bachelor of Arts in Education (Business Studies and Accounting) in Mary Immaculate College. Prior to this she spent many years working within leading Financial Institutions, in both Ireland and Australia. During this time, she developed a passion for teaching and returned to full-time study as a mature student in 2016. Active learning is not only highly topical currently, but a field which Sandra is deeply passionate about. With the student at the heart of this research, Sandra aspires to see regular implementation of active learning across the curriculum, in a bid to create a more fulfilling educational experience for all.

KEYWORDS: Active Learning, Junior Cycle Reform, Motivation

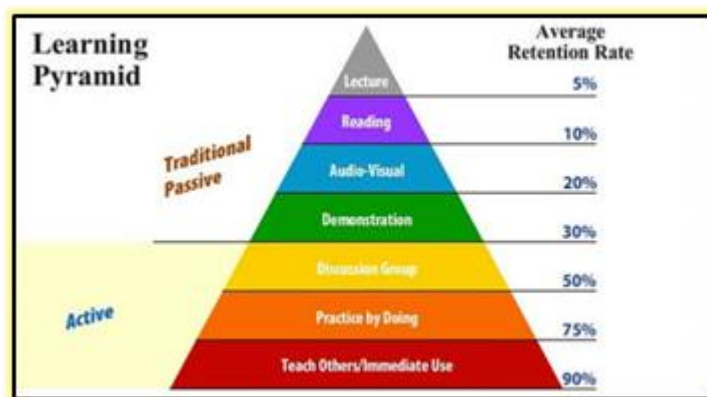
INTRODUCTION

The recently Reformed Junior Cycle places core focus on key skills, combined with new emphasis placed on learning, assessment and reporting, through active and more meaningful approaches. Evidence of this is documented in the balance between knowledge and skills in the framework for Junior Cycle 2015, "These curriculum and assessment arrangements will promote a focus on active and collaborative learning" (Ireland, Department of Education and Skills 2015, p.7). Research highlights that active learning implementation provides a more idyllic classroom experience. Gibbs stated that the perfect educational experience, is where students come to class, readily prepared to actively capture the content, as opposed to passive absorption (1992). Therefore, it is imperative that post primary teachers implement active learning with their students.

This article is a reflective analysis of one active learning methodology (i.e. a table quiz), and is part of a larger study. The motivating force for this study arose from the researcher's desire to gauge a deeper understanding of the process, to improve their own practice. The background informing the researcher stemmed from observations of classes during teaching placement. Most classes observed, contained little or no evidence of active learning. This led to contemplation as to why the lack of a practice, that is widely encouraged by leaders in the field? Furthermore, there is limited research on teachers' self-reflective studies of implementing active learning. Thereby, this study explores the following research questions:

- What challenges does a student teacher of Junior Cycle classes envisage during implementation of active learning?
- How does active learning impact teaching and learning of first year students in a co-educational classroom?
- What are the most effective active learning methods to use with first year students in a co-educational classroom?

This article is an extract from a detailed dissertation completed as part of a Bachelor of Education degree programme in 2020.



NTL Institute, 2020

CONTEXT

Theories of the More Knowledgeable Other (MKO) and the Zone of Proximal Development (ZPD), which are the work of Lev Vygotsky (1934), underpin the active learning evolution. According to Vygotsky's theories (1978), social interaction plays a vital role in cognitive development. The MKO theory involves interactive learning from another who has higher capabilities in or is more knowledgeable about the topic. Therefore, this method similarly applies through active peer or educator learning. This concept is closely linked to the ZPD theory. The ZPD theory demonstrates what a child can achieve alone versus what they can achieve from another skilled individual who

guides and encourages them (McLeod 2018). According to McLeod, Vygotsky's notion is that teachers put in place collaborative classroom methodologies where children with less proficiency can advance with the help of their more competent peers. Freund (1990) conducted a study which provides more recent evidence in support of Vygotsky's theory of ZPD. This research concluded that within the ZPD, increased knowledge through guidance led to an increase in performance levels as opposed to working individually (cited in McLeod 2018).

Recent policy implementation in Ireland has resulted in the Junior Cycle Reform (Ireland, Department of Education and Skills 2015) This has involved an overhaul to the structure of the Junior Cycle programme. As a result, a greater emphasis is now being placed on the active learning process. This approach involves a wide variation of method and instruction. Students are actively partaking in classroom activities, rather than sitting motionless receiving information in a passive form. Active learning is an intriguing pedagogy whereby students avoid passive knowledge absorption from teachers, as they become involved in the classroom activities through various methods such as discussion and evaluation (Agbatogun 2014; Prince 2004; and Watanapokakul 2011, cited in Saiphet 2018). Furthermore, Brophy (2010) states that the key to worthwhile learning experiences involves inclusion of various methods such as discussion and activities within programs, in order to accomplish important goals. Motivation plays an important part in the process, as active learning results in student motivation increasing. Through collaborative work student motivation increases (Agbatogun 2014; Bonwell and Eison 1991; Fink 2003; and Khamung 2016 cited in Saiphet 2018).

Contemporary evidence portrays that active learning brings about many challenges. "Encouraging active learning can be a challenge for both educators and students, particularly in large, lecture-based classes" (Buckley *et al.* 2004). Despite multiple evidence supporting the success of active learning as a teaching method, a journal article by Finelli *et al.* (2018) says that student resistance provides a notable challenge to the implementation and effectiveness of active learning. From an instructional angle, further barriers to active learning implementation such as efficacy of techniques, preparation time and ability to cover the syllabus have also been highlighted by Finelli *et al.* (2018). In a popular study, Bloomer Green *et al.* (2018, p.191) state the following: "Teachers, for example, may be concerned about the extra preparation time active lessons can require, apprehensive about the class time taken up by active learning, and not convinced that they should change if they are already a good lecturer". Based on these findings, it is evident that these writers also support the fact that active learning implementation has its challenges. It is evident from evaluated research that active learning is fundamental in educational context presently. Furthermore, previous researchers have highlighted that there are

various outcomes to implementing active learning. Therefore, it seems prudent to explore the response to its implementation in the classroom. The challenges and experiences faced by the teacher through active learning implementation are the core focus of this study.

METHODOLOGY

The study design used was a self-reflective analysis. The primary approach used to collect data was a reflective journal, recorded by the writer, following each class. This data source was supplemented by lesson plans, teaching resources and observations. Reflective journals are an effective way to obtain information about a person's feelings (Cohen et al. 2007). Observations as a supplemental data collection method is suitable in this regard as "they afford the researcher the opportunity to gather 'live' data from 'live' situations" (Cohen et al. 2000, p.305). Research carried out aimed to produce valid and reliable knowledge in an ethical manner. Considering openness and transparency, a letter outlining the study was given to the principal of the school involved in the study at the onset of the research period. This reflexivity research method does not require consent forms to be completed.

The study was carried out over a 2-month period, in a small rural, post-primary school. The focus was on a first-year business studies class of 19 students (9 girls and 10 boys). These students range in age from 12 to 14. The researcher met this group for 4 forty-minute classes per week. Repeating some active learning strategies with the same class group, whilst implementing some minor tweaks, gave the researcher a clearer picture to format conclusions. By coincidence the gender numbers were almost equal male to female ratio in the class, which could provide a good balance of outcomes.

The research method chosen for this study was a 'reflective self-study' based on a qualitative analysis of the writer's personal experiences of active learning implemented in the classroom (i.e. a table quiz'), which was conducted as a collaborative approach to assessment. This method generated data through composition of a journal and critical reflection of the writer. Cohen et al. (2000) believe that research of a qualitative nature places the researcher at the core of the experiences of the first-person, and data analysis usually begins whilst collecting the data. The current study consisted of the researcher following the guidelines as advised by Braun & Clarke (2006). This involved taking a wide focal point and reflecting on the data as the situations emerged. Materials required for the quiz included pre-prepared questions, answer sheets, assigned teams, table numbers and a timer. The quiz was implemented by distributing six rounds of questions at separate intervals. Each round was given a specific time to

complete. Answers were collected after each round and corrections were completed before the following class.

FINDINGS AND DISCUSSION

Many comprehensive themes and contributory themes were deducted from the data, and these were used in a bid to demonstrate a student teacher's perceptions of implementing active learning with Junior Cycle students. A common theme appearing was how students appeared to grasp a better understanding of the content, where relative to life, more meaningful approaches were taken. An example of this is where images of local hurling teams were used, to discuss business sponsorship of sports teams, as a marketing strategy. Another theme which emerged was the student preference of a collaborative approach to assessment. The third core theme which emerged depicted that competitive elements increase student engagement. The three active learning methodologies which the writer focused on are 'Blue Sky Thinking', 'Table Quiz' and 'Trashcan Basketball'. This article will discuss the findings which emerged from the use of a 'Table Quiz', as a collaborative approach to assessment.

An 'end of topic assessment' was held through co-ordination and hosting of a 'Table Quiz'. The class was split into six groups with four groups consisting of three members and two groups with two members. There were three students absent on the day which led to two groups having reduced member numbers. Each group consisted of students with varying abilities, with a teacher effort made to place higher and lower ability students together. This method of grouping was used in line with prior research based on Vygotsky's MKO theory, as mentioned earlier, which highlighted that compared to individual work, student collaboration in the classroom shows improved academic performance over students who are taught through individual methods (Johnson *et al* 1998).

The quiz itself consisted of six rounds. The rounds were named 'multiple choice', 'one correct answer', 'speed round', 'picture round', 'sport round' and 'random mix'. The number of questions varied for each round. Questions consisted of a variation of direct topic questions and images (in the case of the picture round) but also had some non-topic questions which had been discussed in class at some point and linked to the topic. Examples of these questions were: who is the current highest-paid soccer player in the world and, who is the all-time leading scorer in NBA basketball? These individuals had been discussed in class in connection with their wealth and 'savings and investment' options. The process of linking relevant life interests to the topic, which emerged as a contributor to learning enhancement with use of the 'Blue Sky Thinking' methodology, was repeated in this activity.

The initial noticeable outcome from the writer's observations was the expression of relief across all students, followed by excitement, when they realised they were not being individually assessed but rather had the support of their peers in this instance. Prior to the assessment, all students had been informed there would be a test but were not advised it would occur in a group scenario. The teacher had personally felt a lesser effort to prepare for the test could occur if students were aware in advance that a group test was taking place. This noticeable lift of anxiety and subsequent elation aligns with findings of Preville (2018) who states that group situations improve eagerness as students realise they are supported in their learning.

Another instance that was prominent to the researcher emerged from a question in the 'sport round'. Many of you play for local hurling clubs, Team 1, Team 2 and Team 3. Name the player from one of these clubs who also plays senior county hurling and whose first name rhymes with AIB? This question, whilst touching on the topic by containing reference to an Irish financial institution, was specifically designed to create interest through reference to a local sport which most students have an immense interest. In fact, following the class, students were intrigued to know the outcome of this question. The researcher held off on the answer and co-ordinated it with assigned homework for that night. Later in the day, the researcher overheard student discussion during lunch break around this question and how it derived from its linkage to personal banking and what the potential answer could be? This suggests that a meaningful approach invoking relevant to life examples can take learning beyond the classroom.

This methodology required a little more planning and organising to implement. However, nothing overly extensive or exhaustive. The additional being, extra questions were required given there were six rounds in the quiz. Also, teams had to be pre-prepared and rules set out at the beginning. A standard individual assessment would have also required rule setting. Corrections required for a 'Table Quiz' involved six rounds to be corrected for six teams which equalled 36 rounds in total versus 19 individual assessments in a non-group scenario. The comparison here shows some additional marking time required but once again not an exhausting amount (see chart 1). Timing and organisation are a notable factor as six rounds of the quiz needed to be distributed and collected very efficiently to achieve completion by class end. The margin for error or delay was very small. This caused a small amount of anxiety in the implementor's mind as they strived to reach success criteria prior to class end. This finding is synonymous with an earlier mention of Bloomer Green *et al.* (2018) who stated that preparation time for active lessons and adequate time to reach success criteria are teacher concerns.

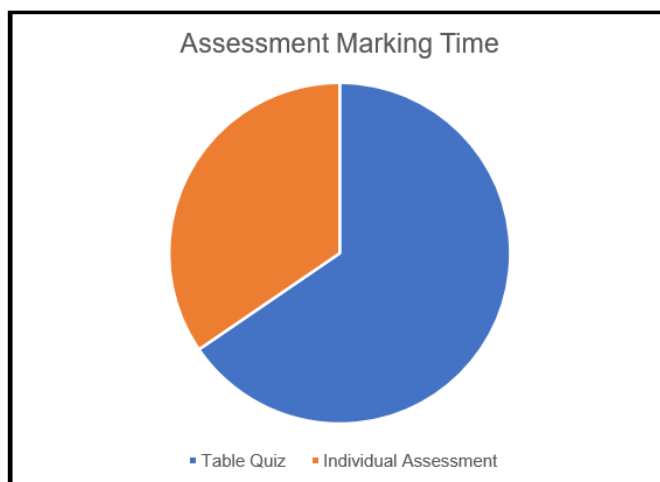


Chart 1. Correction time of 'Table Quiz' versus Individual assessment

A competitive element was evident during this table quiz activity. Each group was given a name linked to the topic such as 'American Dollars' and 'Brexit'. Students were overheard chiming "come on the Brexiteers" and appeared to be highly engaged with completing the task at hand in a bid to surpass their peers. This portrayed an increase in the attempt rate by all group members to collaborate and succeed. This instance suggests that active learning alone is one element to consider in teaching but active learning with an overarching competitive element can create a whole other denotation to outcomes. Literature correlates with findings of this study that a well-organised competition challenges its participants to give their best, and thus it enhances student motivation and learning (Verhoeff 1997; Lawrence 2004).

CONCLUSION

The conclusions drawn from this active learning implementation study highlight that a higher level of planning and organisation is required but nothing exhaustive. A challenge came about when 'Blue Sky Thinking' evolved into a debate which proved challenging to ensure inclusion of less vocal students. The other concern relates to increasing noise levels and possible disruption to other classes. Active learning had a mostly positive impact on both teaching and learning. Evidence of extremely effective learning outcomes were portrayed and from an instructional viewpoint, the teacher observed much success during classes. Active learning with a competitive element, provided the most successful outcomes. This was evident during and following the table quiz. Positive social interaction was evident, students were highly engaged throughout and worked collaboratively to defeat their peers in the event. All students appeared to enjoy the class immensely and recap carried out during the following class, demonstrated retained learning.

As a researcher, I benefited from this study in many ways. The findings highlighted benefits and problems which can arise during active based learning implementation at Junior Cycle level. This provides a safeguard for me going forward as I can foresee potential difficulties which may occur and have a strategy to minimise disruption if necessary. My findings demonstrated successes with certain methodologies. This supports me with planning strategies to optimise success rates. I will now benefit by being pre-informed as to the most suitable methodologies to use, to meet both student and curriculum needs. I now have the potential to achieve the required outcomes in a more efficient manner. This allows me to be a greater leader, who conducts more meaningful and enjoyable classes for their students. Student engagement should increase as a result, leading to whole class and individual success.

The key outcomes were mostly positive ones and can be used to inform practice going forward. These significant findings can also benefit other educators. Evidence based research provides a concrete basis for teachers to confidently progress with a specific form of instruction and lesson design (Taber 2013). Research supports teachers, as they are confident from past evidence, that by implementing certain strategies they can achieve certain outcomes. Research can act as a source of motivation for teachers as statistics may show evidence of higher achievement levels amongst students following active based learning use. This subsequently encourages teachers to follow a similar approach, due to knowledge of potential successful outcomes for their students.

Some key recommendations are outlined below to assist with future policy implementation, educator practice and academic research.

1. A central role of the teacher in providing quality education should allow for active learning methodology that is relative and meaningful.
2. Productive forward planning should permit adequate time to achieve success criteria in classes with active learning methodologies.
3. Introduce competitive elements to active learning methodologies on occasion as this produces enthusiastic participation and high engagement.

The limitations restricting this study include the sampling used (convenience), focus on a first-year class only, time, small-scale and financial constraint. Convenience sampling can create bias and lacks whole-population representation (Convenience sampling 2009).

ACKNOWLEDGEMENTS

I wish to express my sincere gratitude to the students who engaged in this research. I would like to extend my appreciation to the academic staff at Mary Immaculate College for their support and guidance, in particular my research supervisor Catherine Stapleton. Thank you to Dr Aimie Brennan whom I worked closely on this research with and for the opportunity to publish my article. Finally, thank you to my husband, four adored children, family and friends who supported me throughout this journey.

REFERENCES

- Bloomer Green, L., McCormick, N., McDaniel, S., Holmes Rowell, G. and Strayer, J. (2018) Implementing Active Learning Department Wide: A Course Community for a Culture Change, *Journal of Statistics Education*, 26:3, 190-196, available: DOI: 10.1080/10691898.2018.1527195.
- Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101.
- Brophy, J. (2010) *Motivating Students to Learn*, 3rd ed. New York: Routledge.
- Buckley, G.L., Bain, N.R., Luginbuhl, A.M. and Dyer, M.L. (2004) Adding an “active learning” component to a large lecture course. *Journal of Geography*, 103, 231 available: <http://dx.doi.org/10.1080/00221340408978607>.
- Cohen, L., Manion, L. and Morrison, K. (2000) *Research methods in education*. 5th ed. USA: Routledge.
- Cohen, L., Manion, L. and Morrison, K. (2007) *Research methods in education* 6th ed. Abingdon: Routledge.
- Convenience sampling (2009) *Explorable.com*, available: <https://explorable.com/convenience-sampling>
- Finelli, C.J., Nguyen, K., DeMonbrun, M., Borrego, M. Prince, M., Husman, J., Henderson, C., Shekhar, P. and Waters, C.K. (2018) ‘Reducing Student Resistance to Active Learning: Strategies for Instructors’, *Journal of College Science Teaching*, 47 (5), 80-91, available: <https://search.proquest.com/openview/b0797d4068746ae3c800d7f446fd5973/1?pq-origsite=gscholar&cbl=49226> [accessed 26 March 2020].
- Gibbs, G. (1992) *Improving the quality of student learning*, Bristol: Technical and Educational Services Ltd.
- Ireland, Department of Education and Skills (2015) *Framework for Junior Cycle*, Dublin 1: Department of Education and Skills available: <https://www.education.ie/en/Publications/Policy-Reports/Framework-for-Junior-Cycle-2015.pdf> [accessed 19 Feb 2020].
- Johnson, D.W., Johnson, R.T. and Smith, K.A. (1998) *Active learning: Cooperation in the college classroom*, 2nd ed., Edina, MN: Interaction Book Co.
- Lawrence, R. (2004) Teaching Data Structures Using Competitive Games, *IEEE Transactions on Education*, 47(4), 459-466,
- McLeod, S. A. (2018) Lev Vygotsky, *Simply psychology*, available: <https://www.simplypsychology.org/vygotsky.html> [accessed 01 Feb 2020].
- Ntl Institute (2020) *Learning Pyramid* [image], available: <https://www.ntl.org/> [accessed 29 May 2020].
- Saipheth, P. (2018) The effects of Active Learning on Thai University Students’ Motivation to Learn English, *The International Journal of Interdisciplinary Educational Studies*, 13 (4) available: <http://doi.org/10.18848/2327-011X/CGP/v13i04/37-50>.
- Taber, K.S. (2013) *Classroom-based Research and Evidence-based Practice*, 2nd Ed, London: Sage.
- Verhoeff, T. (1997) *The Role of Competitions in Education, Future World Educating for the 21st Century Conference and Exhibition*, available: [file:///C:/Users/sandr/AppData/Local/Packages/Microsoft.MicrosoftEdge_8wekyb3d8-bbwe/TempState/Downloads/The_role_of_competitions_in_education%20\(1\).pdf](file:///C:/Users/sandr/AppData/Local/Packages/Microsoft.MicrosoftEdge_8wekyb3d8-bbwe/TempState/Downloads/The_role_of_competitions_in_education%20(1).pdf) [accessed 20 Feb 2020].
- Vygotsky, L. S. (1978) *Mind in society: The development of higher psychological processes*, Cambridge, MA: Harvard University Press.