STER Student Article

# An Investigation into Five Methods of Student Reflection

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*Master of Education*

Katherine Chapple graduated from NUI Maynooth in 2000 and taught English and Geography in secondary school from 2002 to 2008. After a career break from 2008 to 2015, 2016, Katherine completed a Post Graduate Diploma in Educational Leadership from NUI Maynooth. The main area of focus here was School Self-Evaluation and Reflection. In 2017-18 Katherine completed a Master of Education from Mary Immaculate College. The research investigated five methods of student reflection on which this paper is based. In 2019, Katherine hopes to begin study for a PhD in Education with the subject topic of student voice. She currently works as an English teacher in Laurel Hill Coláiste, Limerick.

## INTRODUCTION

Reflection in education is not a new concept. There has been a plethora of literature on reflective teaching since John Dewey's "How we think" in 1933 (Fendler 2003) but it was not until recently that reflection in education has crept into policy and practice. There has been a change in the role of the student in education over the last number of years. The student has gone from being an invisible entity in early Irish Educational Policy (Government of Ireland, 1930) to being challenged to be the centre of their learning and to be responsible and autonomous for their own progression (DES 2015).

Being the centre of the learning poses challenges for students and teachers and it was these challenges that this research sought to investigate. The primary aim was to investigate the benefits and drawbacks of methods of reflection. Five methods were chosen that the researcher had previously used and which secondary school teachers are encouraged to use by the Department of Education, in the new Junior Cycle course (DES 2015). The research was carried out in a "home" setting and in five other secondary schools in Ireland. The research focused on 109 participating students and 10 teachers who gave their views on their experiences of using one method of reflection. Embedded in this research was an investigation to reflective practice for students

and do these teaching methods aid teaching and learning.  The research sought to assess student's reflection from the student's and the teacher's perspective and how reflection could be guided and promoted by the teacher.  At its core, the research posed the question to students "Is reflection an effective way to learn?". This research investigated five methods of student reflection and examined them from the perspective of students and teachers.  The five methods of reflection were: Peer Assessment, Student Self-Reflection, Jigsaw method, 321 and KWL.  The research recorded both academic and non-academic benefits and pitfalls of student reflection in theory and in literature both in an Irish and an international context.

## CONTEXT

Student reflection has evolved over the last 100 years of Irish Education.  At the establishment of our state, Irish Educational policies focused on the tangible elements of school life such as buildings and salaries (Government of Ireland 1930).  As time progressed the policies changed.  In the 1980's, the focus was on employment and getting the student ready to find work (Power 1980).  Since the 1998 Education Act, there have been many changes to produce students who are autonomous, reflective and self-managing people who have a positive engagement with education (DES 1998, DES 2015).  The arrival of the White Paper on Education (DES 1995) and the Education Act (DES 1998) prompted a radical change education system.  There was a call for a balance between internal assessments and external assessments (DES 1995).

In 2009, the Senior Cycle Key Skills Framework, opened with the statement that students needed the ability to think "creatively", "innovatively" and "critically" (NCCA 2009, p.2). The NCCA stated that students needed to be able to adapt to change to be ready for life in the 21st century.  The words "reflective learner" appear in the opening paragraph, mooting the idea of the student reflecting on their own work, thinking for themselves, about their own learning (NCCA 2009).  More recently still, in the "Looking at our Schools (LAOS) 2016; A Quality Framework for Post-Primary Schools" (DES 2016) students are challenged to: "reflect on their progress as learners and develop a sense of ownership of and responsibility for their learning" (DES 2016, p.23). The framework for the new Junior Cycle has a strong emphasis on students reflecting on their own learning (DES 2015).  The development of self-management and self-awareness are key considerations in the framework.

This study investigated reflective practices as they were being implemented in schools. The five methods of reflection were: Peer Assessment, Student Self-Reflection, Jigsaw method, 321 and KWL. Peer Assessment is when student assess each other's work according to criteria laid out by the teacher.  They give feedback to the peers and their peers can assign a descriptor grade (good/ very good / excellent).  Student Self-reflection is when a teacher indicates the features of quality in a piece of work and the students assess their own work. They write down what they did well and what they could have done better and how they can improve. The jigsaw method is where a class is divided into groups of four or five.  Each group is given a topic to research or part of a topic.  For

example, in an English class, each group may be given one stanza of a poem to analyse. Then each group reports to the class on what their expert group has learned. When all of the groups have reported back, the jigsaw is complete. The 321 method is utilised before the end of a class students are asked to record three things they learned during the lesson. Next the students are asked to record two things they found interesting, that they would like to learn more about. Finally, the students are asked to record one question they still have about the material. The KWL method is a chart that has three columns. "K" stands for what I **K**now already. The "W" stands for what I **W**ant to know, and the "L" stands for what I have **L**earned. This can be done before a new topic is started to glean what knowledge is already known and it can be used as a revision device. The research recorded both academic and non-academic benefits and pitfalls of student reflection in theory and in literature both in an Irish and an international context.

## METHODOLOGY

This Action Research study was "situated learning": learning that is carried out in the classroom, about the classroom (Collins and Duguid 1989, cited in Cohen *et al*. 2007, p.299). A simplistic approach of Lewin's "Plan, Act, Observe and Reflect" was preferred (Lewin 1946). The research focused on five methods of student reflection; Peer-Assessment, Self-Reflection, Jigsaw, 321 and KWL. Five teachers volunteered, in the "home" setting (a single-sex (girls') school), and five teachers volunteered from different schools (a single sex (boys') school, a private school, a school with DEIS status, a co-educational school and a school for adult learners). Volunteering teachers were given a questionnaire which asked the teachers to specify their top three methods that they would like to use in the study. Teachers were given a method they were interested in using. The brief was that they should use the method in at least three class periods, over two weeks.

Students and teachers observed and reflected the method of reflection in questionnaires. Further data came from a student focus group of five students from different settings, each student representing the method of reflection they used. Finally, data was received from the researcher interviewing teachers about their experience of implementing the method of reflection.

Questionnaires gave numerical data but space was afforded to students and teachers to expand on their answers providing the research with rich qualitative data or an "intra-method" mix (Tashakkori and Teddlie, 2010). The first questionnaire was given to the volunteering teachers and from this, information regarding their level of experience in using student reflection, what subject they taught, which method they were interested in using and which year groups they were interested in implementing the method with, was gleaned. This initial questionnaire allowed the researcher to take from the volunteer sample a mix of subjects, year groups and levels of experience to gain a purposive sample. The final two questionnaires elicited information from the (a) 109 participating students and (b) 10 teachers regarding their experience of the method of reflection.

Once data was collected, the process of analysis began. Results were counted so percentages could be attained for making graphs and charts. Answers were sorted into groups and themes emerged. The screenshot below shows how answers were colour coded into academic benefits (blue) and drawbacks (red).

| Students were asked if they found their method of reflection Positive (A) Negative (B) | Then the students were given space on their questionnaire to explain why they found their method positive or negative. |
|---|---|
| A | It Refreshes Memory |
| A | It Aids Focus |
| A | It Aids Focus |
| B | Repetitive |
| B | I prefer other methods |
| B | Did not complete an answer |
| A | Promotes interest |

Figure 1 Colour Coded Benefits and Drawbacks of Student Reflection Methods.

When coding the qualitative elements, the researcher organised them as Attride-Stirling suggests and then through reading and re-reading, themes and sub themes began to emerge (Attride-Stirling 2001). For example: a student may have deemed the method of student reflection beneficial and expanded their answer to say that the method was beneficial for "revision" (colour-coded in green). Below, the screenshot shows student's reasons for liking the method of reflection they used and the theme of revision (aids remembering and refreshes memory) is emerging.

| Students who answered (a) Positive were grouped together. Their reasons were collated and colour coded so that sub themes emerged. | The sub theme "Revision" is emerging and is colour coded in green and a further subtheme of "Peer Learning" is colour coded in orange. |
|---|---|
| A | Helps Remembering |
| A | Student did not elaborate |
| A | Refreshes Memory |
| A | It Refreshes Memory |
| A | I am learning from others |
| A | It helps me revise. |

Figure 2 Screenshot of the emerging of sub-themes: Revision

To code the student focus group and teacher interviews, the audio recordings were typed verbatim by the researcher. This process allowed the researcher to analyse the data slowly, firstly categorising the comments into quantitative elements and colour coding them as before: red for negative, amber for neutral and green for positive. With the qualitative aspects of the student focus group and teacher interviews, themes emerged from the positive or negative initial questions. These themes were sub divided into categories; for example: a teacher or a student may have found the methods of reflection too time consuming so the theme "time consuming" was created. The most popular themes produced the findings of this research.

## FINDINGS AND DISCUSSION

There was a positive reaction to student reflection. The results presented are a representative of the sample of students and cannot be generalised, however, some interesting findings and questions were raised. 86% of students deemed their method of reflection to have had a positive effect on their learning. 88 students (81%) said they would recommend reflective practice to other students. All participating teachers found the experience positive.
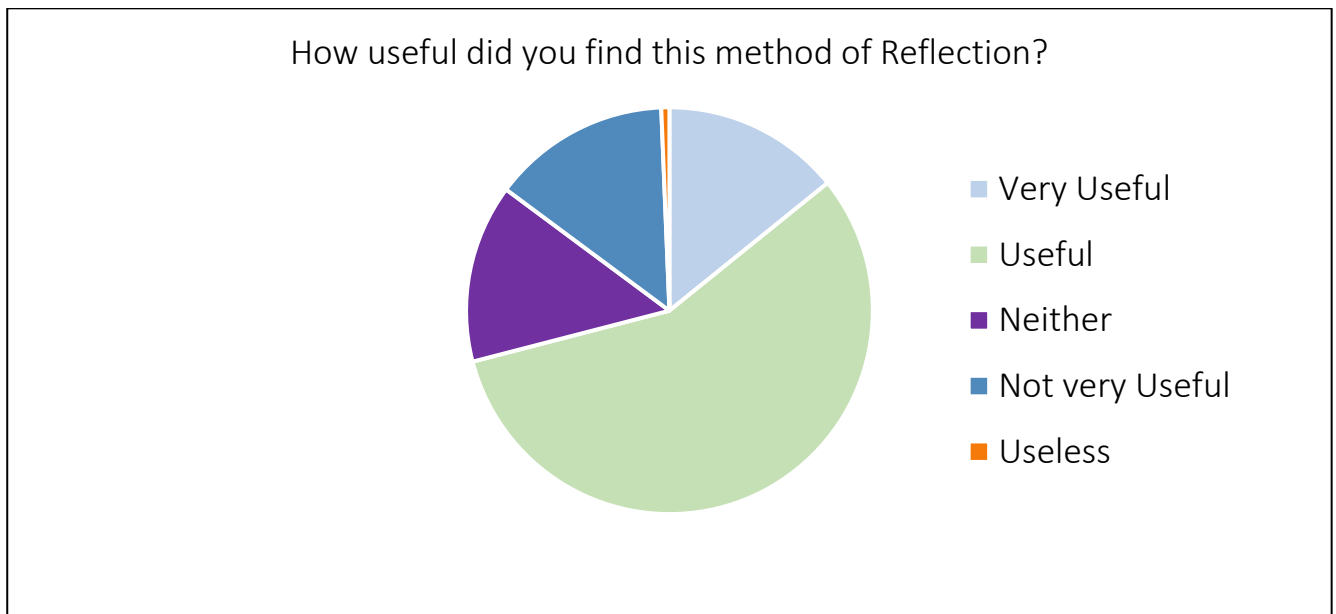


Figure 3 - Student Response to Question

The most popular positive qualitative response from students was that the reflection method they trialled aided their revision. In this study, 23 students (21%) wrote that reflection "refreshes memory" or that it "aids revision". Teachers cited revision as a key academic benefit stating their method [Jigsaw] "aids revision" (Teacher H) and that "[KWL] is a quick revision tool" (Teacher C). Revision and recapping knowledge was the most popular reason that student reflection was beneficial. Among the non-academic

benefits noted by students and teachers were personal development, working with peers and enjoyment. In the student questionnaires when asked about what they like about student reflection, responses such as "it encourages you to be more honest with yourself", "it helps self-thought", and "it motives me" were written.

Teachers wrote in their questionnaires that: "the student felt empowered by the reflection" (Teacher A) and that "[Self Evaluation]" raised positivity in students" (Teacher E). Teacher F noted that "(KWL) allowed the students to set personal goals". Teacher B stated that "[In using these methods], students are becoming more confident, independent, critical learners". Teacher I noted the value of teaching students to self-evaluate as a "good life skill". Teacher A said that reflection would "create a sense of achievement" in students.

Working in groups or with peers was another benefit that students enjoyed. In the student questionnaires students cited reasons such as "we learn from each other" when describing why they liked their method of reflection. In the focus group, student 4 explained why they enjoyed the active nature of the "Jigsaw" method when she said, "we spend so [much time] with our heads in books- it's great to move around and talk rather than just learning notes, so it's different to do something in the school day rather than sitting down all the time". This non-academic skill of helping others is an important life skill and is a finding of Waddington and Wright's (2007) study; students find that working together can ease the burden of working alone.

There were drawbacks to the methods of reflection. 40 students (37%) said that their learning would not improve if they continued to use methods of reflection. 21 students (19%) said they would not recommend reflective practice methods to their fellow students. The students' reasons were that the methods were: (i) too time consuming, (ii) uninteresting, (iii) not taken seriously, (iv) preferred working alone, and (v) that student's shouldn't correct their own work. Exams were on the student's minds. Students directly addressed this and their comments were "how will this help in a state exam?", "I won't be able to ask my friend in an exam", "there is no group work in an exam", "it's too small for revision for exam, I have too much to revise", "this is taking from time that we could be revising for an exam" "we won't be peer assessed in the Leaving Cert".

It is interesting to note that the participants, both teachers and students, found a disconnect with these methods and what the students are asked to do in a state exam. In interview 3, the teacher noted that "while group work is a good way to revise, they still have to go home and learn it, they won't have that facility in the exam". In interview 2, the teacher concurred with this by saying "it's not real to them unless there is an A, B, or C from me or on their exam or their work". In interview 4, the teacher stated that "while these methods of reflection have their place, what they are doing is so small compared to an exam that is so big". The teacher continued to say that "we are concentrating on such a small amount of

work (in the reflective method), and the course is so long… if we were to give the freedom to the student of questioning every single thing that interests them, then the course would never be covered, and our role, is to cover the course".

In the teacher questionnaire, teachers were asked if they would incorporate this method, or methods like these in their future teaching practice. 100% of teachers replied positively to this. Teachers noted the enjoyment factor, that the methods "highlight strengths and weaknesses and they build self-esteem" (Teacher D), "Positivity and student focus is enhanced" (Teacher F), and "There is good positive reinforcement" (Teacher I).

## CONCLUSION

A key finding of this research was that it was a positive influence on the participants regardless of the age of the student, the school they attended, or the subject the method of reflection was used in.  The study showed that students began to have a critical attitude to their work and as Smith (2009) noted, they began to see their own potential for development (Smith 2009).  The findings showed that students were engaged with their learning, gave feedback to their teacher and set personal goals for themselves.  They were less reliant on their teachers and more reliant on their own ability to self-assess what they knew and what they didn't know.  These findings concur with the aims of the Junior Cycle and the Key Skills of the NCCA Framework (DES 2015, NCCA 2009).

Student reflection requires far-sighted vision from all the partners in the school community.  Once fostered by all stakeholders in education, the beneficial results will help create students who are equipped to face the challenges of the everchanging 21st Century world.  Claxton quotes Albert Einstein saying that "education is what remains after one has forgotten everything they learned at school" referring to the skills we learn, not the content, are more important (Claxton 2009, p.1).  For these skills to have value, they must be recognised in some way in the Junior and Senior Certificate examinations.

There was evidence that participants were frustrated when completing these reflection methods as they did not connect with a summative exam. The distance between what they are being asked to do in these methods of reflection and what they are asked to do in a summative exam, is great.  The high stakes summative exam needs to be changed but as the high stakes summative exam still exists, are we serving our students well by introducing more formative methods?
The research found that students value academic benefits more than non-academic benefits.  These methods of reflection promoted aspects like peer collaboration, personal goals and peer learning.  These attributes are not easily turned into marks in a summative exam, so measures could be taken to award marks for recognition of work done in the classroom or on a group-based project.  Measures such as these

will give merit to these much-needed skills, that students will require in the world beyond secondary school.

Reflection is a powerful tool in education (Cavilla 2017). By reflecting, the student builds on previous knowledge, they cement new knowledge, and it empowers them to discover new avenues of learning. This growth needs to be introduced and scaffolded by the teacher. Reflection should be introduced by degrees, so students can gradually gain confidence in their own abilities and in the ability of their peers to become less reliant in the teacher. The benefits are wide-ranging but not instantaneous. The commitment is to growth, and "growth takes plenty of time, effort and mutual support" (Dweck 2006, p.244).

## ACKNOWLEDGEMENTS

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