Growth Mindset Schools – Thematic Analysis of Teacher’s Experiences Implementing Growth Mindset in Irish Primary Classrooms

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Submitted in partial fulfilment of the requirements of the Higher Diploma in Psychology at Dublin Business School, School of Arts, Dublin.

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March 2017
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Acknowledgements

I would like to thank my supervisor, Dr. Caroline Rawdon, for all of the support, advice and guidance she has given me throughout this process.

I would also like to thank Dr. Margaret Walsh and Dr. Pauline Hyland for their continued advice and guidance and Michael Nolan for making the process so much easier by providing his knowledge and expertise.

I would like to thank my family and friends for always supporting my education and for their understanding and patience during this time. I would like to thank especially my mother, Kate, Shane and Liam for their continued support throughout this process. I could not have done this without them.

Finally, I want to express my gratitude and sincere thanks to the principal and teachers of St.Colmcille’s S.N.S. for the opportunity to conduct this research in their school and their constant support throughout the study. I deeply appreciate all the help you have given me.
1. Abstract

Current research demonstrates the positive impact of growth mindset interventions on student motivation and academic achievement. However, teacher experience has been overlooked. This study aimed to gain a deeper understanding of teachers’ experiences of implementing a growth mindset programme. It sought to explore the perceived benefits and obstacles facing teachers and their ideas on implementing Growth Mindset principles in line with the Irish curriculum. Qualitative research was carried out with eight teachers describing their experiences in semi-structured interviews. Quotes from transcripts were categorised. Four themes reflecting teachers’ experiences were taken from the data using thematic analysis: (a) Creating a growth mindset climate, (b) need for professional development, (c) the role of parents and (d) the benefit for teachers. Implications of these themes highlight the need for relevant teacher training and the importance of parental involvement in growth mindset programmes. The value of creating a growth mindset school climate for the benefit of both students and teachers alike was emphasised.
2. Introduction

2.1 Growth Mindset

Much current educational research focuses on non-cognitive traits such as grit and pupil mindset, rather than results, as an important element of education. (Duckworth et al., 2007; Blackwell et al., 2007; Hochanadel & Finamore, 2015). Carol Dweck has been at the forefront of this movement. Emerging from her research into theories of self and motivation, Dweck has put forward a Growth Mindset Theory. This theory is supported by empirical evidence in its effect on boosting student achievement (Blackwell et al., 2007; Paunesku et al., 2015). “Individuals with a fixed mindset believe that their intelligence is simply an inborn trait - they have a certain amount, and that's that. In contrast, individuals with a growth mindset believe that they can develop their intelligence over time” (Dweck, 2010, p. 16).

Weiner’s attribution and motivation theories form the basis for Growth Mindset Theory. Weiner, in his research into motivation, found that individuals who are high in achievement motivation are more likely to approach achievement related activities and persist longer with difficult tasks as they attribute failure to lack of effort. These individuals also choose tasks of greater difficulty more often than those low in achievement motivation because performance at those tasks will help them understand their capabilities better (Weiner & Kukla, 1970). A large amount of research demonstrates that Growth Mindset encourages students to see failures as opportunities to learn and improve, rather than as evidence that they lack ability (Duckworth & Eskreis-Winkler, 2015). Dweck also researched ‘learned helplessness’ and observed that “helpless children attribute their failures to lack of ability and view them as insurmountable” (Diener & Dweck, 1980, p. 940).

Dweck and Leggett, (1988) put forward a social cognitive theory of motivation, stating that non-cognitive traits, even personality, can affect processes of motivation and consequently affect behaviour and cognition in a significant way. Motivation is also affected
by implicit theories of intelligence. There is a relationship between an individual’s inherent concept of ability or talent and their goal choice.

Further study into goals provided deeper insight into student motivation. Early research divided goals into two categories; “Performance goals, with their emphasis on outcomes as measures of ability” and “learning goals, with their emphasis on understanding and growth” (Grant & Dweck, 2003, p. 541). Performance goals focus on results and validation of ability. If this does not occur, students can lose motivation and this can affect performance in the long term. Learning goals however, encourage persistence and hard work when facing challenges. Individuals with learning goals see setbacks as obstacles that must be overcome, influencing motivation and in turn, performance in a positive way.

Weiner (2001) focused on two attribution theories: an intrapersonal theory, involving self-directed thoughts and emotions, and an interpersonal theory of attribution involving beliefs about the responsibilities of others. He examined how these beliefs affect student motivation and expectancy of success. This research motivated Dweck to carry out further studies and interventions examining the effect of mindset on pupil achievement. How students respond to failure has a huge effect on how they progress and take on subsequent challenges. While intrapersonal effects are very significant, interpersonal attribution and praise, particularly from teachers has influenced Growth Mindset Theory.

2.2 Praise

Dweck (2007) describes praise as intricately connected to how students view their intelligence. The ‘self-esteem movement’ encouraged praising children in order to boost their confidence and motivation. Many believed that praising children’s intelligence would help to motivate them to perform academically. Parent praise has been shown to affect student motivation later in life. (Gunderson et al, 2013) Studies have shown that praising students’
intelligence gives them a fleeting burst of pride, followed by more long term negative consequences (Dweck, 2007). Interestingly, further evidence suggests that praise for effort or process promotes motivation. Numerous studies have proved that praise for intelligence has more negative consequences for students' achievement motivation than praise for effort (Mueller & Dweck, 1998). Skinner and Belmont (1993) examined the interpersonal student-teacher relationship and highlighted the importance of its effect on pupil motivation. Generic praise has been shown to increase ‘helplessness’ in students (Cimpian et al., 2003). What may be well-intended praise or seem as support for a student who is struggling at a task may send the wrong message. “The popular practice today of identifying weaknesses and turning students toward their strengths may be another self-esteem-building strategy gone awry” (Rattan, Good & Dweck, 2012, p. 736). In trying to comfort pupils, educators may inadvertently be affecting motivation and progress. Even the most subtle, well-intended comments from teachers could affect a student’s concept of their ability or intelligence and can be demotivating in the long-term. Praise for intelligence, “intended to boost children's enjoyment, persistence, and performance during achievement, does not prepare them for coping with setbacks” (Mueller & Dweck, 1998, p. 50).

Teachers’ interactions with students can determine student behaviour and engagement in school directly, but also indirectly through students’ perceptions of the teacher’s behaviour (Skinner & Belmont, 1993).

2.3 Irish Curriculum Planning

The Department of Education 2015-2017 Statement of Strategy oversees the “implementation of a programme of reform, focused on curriculum, assessment and teaching practices to underpin a high quality, relevant learner experience and enhance learning outcomes” (Dept. Education, 2015). These strategies are primarily results focused and lead to
schools concentrating on tests and scores as learning outcomes. Ireland has been renowned for its high standards in education in the past and while still ranked relatively highly in the Organisation for Economic Co-operation and Development’s (OECD) Programme for International Student Assessment (PISA) results, “the report cautioned that it was one of only nine countries which had “regressed” between 1995 and 2009, mainly due to disappointing PISA test scores in the later year” (Humphreys, 2015). Irish education focuses strongly on testing processes, not only within the post-primary system, but also within primary education. Standardised tests measure a pupil’s reading and mathematical achievement, and determine progress in those areas. “Information from the tests is important given the vital role of literacy and numeracy in enabling children to access the full curriculum” (NCCA, 2016). While there can be no doubt of the significance of testing to evaluate pupil progress and ability, the emphasis on testing within Irish primary schools ultimately focus teachers, parents and students on a score. This score can be seen as a marker of ability, talent or intelligence which cannot be changed, leading to the possible practice of fixed mindset attitudes and behaviours.

While the Department of Education Assessment Guidelines focuses on observable outcomes, reporting on student’s academic progress and achievement, the Primary Curriculum contrastingly states its aims to “develop each child’s potential to the full, encourage a love of learning and help children develop skills they will use all their lives” (DES/NCCA, 2009). These aims correspond with Growth Mindset. If teachers are to achieve such goals, research into the implementation of Growth Mindset within a results centred Irish Curriculum should be investigated.

Department of Education Circular 0039/2012 requires all schools to take part in School self-evaluations. The second phase of this process was outlined in Circular 0039/2016. “School self-evaluation is primarily about schools taking ownership of their own
development and improvement” (DES, 2016, p. 6). This is a major step towards Growth Mindset behaviour among policy makers and teachers in the Irish education system. By encouraging teachers to reflect on teaching and learning they are not only partaking in Growth Mindset practice but modelling the process itself for the students.

Progress is also being made within schools and a focus toward identifying learning goals and reflective student self-assessment/self-evaluation is taking place. “Self-assessment involves metacognition - the process of being aware of and reflecting on one’s own learning” (NCCA, 2007, p. 14). Pupils are encouraged to engage with the lesson objectives at the beginning of the lesson and reflect on their learning throughout and at the end of each lesson. The use of learning logs to document self-assessment and reflection is common practice in Irish primary schools. Learning logs may be used in a Growth Mindset framework to reflect on challenges/obstacles and successes in order to cultivate a love of learning and as a result the student’s potential. While a high quality education system is very complex, policy makers, particularly in the United States are beginning to consider student mindsets as a way to enhance achievement (Rattan et al., 2015).

2.4 Current Research

Much research into the effectiveness of Growth Mindset interventions has been carried out. Interventions show that developing a Growth Mindset leads to greater gains in achievement (Dweck, 2015). A study involving adolescents confirmed that those “endorsing more of an incremental theory of malleable intelligence also endorse stronger learning goals” (Blackwell et al., 2007, p. 258). In addition to boosted academic achievement they held more positive beliefs about effort and chose more positive, effort based strategies. The Stanford University Project for Education Research That Scales (PERTS) creates and evaluates mindset interventions that aim to raise student academic achievement (PERTS, 2016).
PERTS have presented numerous studies showing that empowering pupils to take control of their own learning can lead to significant increases in academic achievement. Modern technology has revolutionised the education system. The use of computer games to reinforce Growth Mindset principles has proven successful (O’Rourke et al., 2014). This demonstrates that strategies of rewarding effort and perseverance are successful and can be applied to the current student population in interesting and relevant ways.

While there are numerous studies in the US and a growing body of research in the UK, research into Growth Mindset in Irish education is limited. One intervention within an Irish primary school yielded positive results with 5th/6th class students improving maths STEN scores. Here, Fitzgerald (2015) achieved similar findings to research carried out in the US, within an Irish classroom context. This unpublished research highlighted the importance of teachers in implementing a Growth Mindset programme effectively. While the concept of Growth Mindset is growing in the U.S., (P.R. N., 2014) it does not yet have a clear place in Irish schools. Teachers may be somewhat familiar with the terms fixed and growth mindset but may be unsure of how to approach these concepts within the Irish curriculum.

2.5 Teachers’ Experiences

While evidence of the positive impacts of implementing Growth Mindset programmes is widespread, teachers’ experiences have not been documented in great detail. A significant factor in Growth Mindset education is pupil-teacher interaction (Dweck, 2008). Schmidt, Shumow and Kackar-Cam (2015) suggest that teachers’ own beliefs affect their interaction with pupils. Whether explicitly or implicitly taught, it is teachers who ensure that Growth Mindset concept is embedded in a meaningful way. “Children who experience their teachers as providing clear expectations, contingent responses, and strategic help, are more likely to be more effortful and persistent” (Skinner & Belmont, 1993, p. 578). While self-regulation in
learning is known to be a key element to succeeding in school, few teachers prepare students to learn on their own (Zimmerman, 2002). Teachers, while endeavouring to do their best for their student, still undermine pupils’ ability to take control of their learning and focus on student limitations rather than on strategies that can be implemented to succeed.

In a survey of over 600 teachers, 98% agreed that integrating the concept of Growth Mindset into their classroom practice would improve student learning (EWRC, 2016). This is positive, but in-depth studies, particularly of a qualitative nature, into teachers’ experiences of mindset programmes are limited. This study will explore teachers’ experiences in educating towards a Growth Mindset in a more detailed account than previously conducted.

2.6 Current study - Rationale

The purpose of this study is to explore the experience of teachers in implementing a Growth Mindset programme in their classroom. It will endeavour to get a deeper understanding of the benefits of creating a Growth Mindset classroom environment, the perceived obstacles facing teachers, and their experiences implementing lessons in line with the National Curriculum. Based on the research of Carol Dweck and subsequent mindset intervention programmes, teachers will be encouraged to focus on three areas when implementing the lessons. The first is teaching the pupils the science of neuroplasticity. Secondly, valuing mistakes, failures and challenges as learning opportunities and finally, through praising and providing constructive feedback on the processes involved in learning (Dweck, 2008).

It is recommended that policy makers implement ‘Growth Mindset’ in planning to stimulate widespread improvement in achievement (Rattan et al, 2015). Kahn and Slate (2016) discuss how school leadership can affect student achievement. However, it is teachers that inform educational policy. Aspects of educational policy align with Growth Mindset
theory of education. The overall vision of the curriculum as outlined in the Curriculum Teacher Guidelines is “to enable children to meet, with self-confidence and assurance, the demands of life, both now and in the future” (DES/NCCA, 1999a, p. 6). Nevertheless, the education system remains assessment focused and while this is a necessary tool for learning it may cause conflicting goals and behaviours for teachers and students. This study will explore perceived obstacles faced by teachers in implementing such programmes along with the perceived rewards.

Brief Growth Mindset interventions have proven effective (Blackwell et al., 2007; Aronson, Fried & Good, 2002; Yeager et al., 2016) but it is important to consider the implementation of these interventions carefully within the Irish primary school context. Social-psychological interventions “are powerful tools rooted in theory, but they are context dependent and reliant on the nature of the educational environment” (Yeager & Walton, 2011, p. 268). Experiences of teachers applying Growth Mindset theory to the Irish education system will be explored in this study.

Teacher praise is an important factor to explore in researching Growth Mindset. Dweck (2004) emphasises that ‘process praise’ keeps students focused on how to learn rather than on ability, which leads to engagement of all pupils in learning. Teachers endeavour to do the best for their students and praise used by educators can have considerable influence on students’ achievement. This study will explore teachers’ experiences of using praise for effort and process rather than ability and their attitude to same.

The research question is:

‘What are the experiences of Irish primary teachers in implementing a Growth Mindset programme in the mainstream classroom?’

This question will lead to exploration of the explicit instruction of ‘Growth Mindset’ lessons along with implicit teaching of Growth Mindset attitudes and ‘praise for effort’
within the classroom. It will look at the use of praise for effort as opposed to outcome and how this can be implemented in a results focused curriculum. The current study will examine in detail teacher perspectives of using ‘praise for effort’ strategies and the use of Growth Mindset language within the classroom.
3. METHOD

3.1 Participants and Recruitment

Participants were a purposive sample of 8 mainstream senior primary school teachers ranging from 3rd – 6th class in a South Dublin school. On reviewing the research proposal, permission was granted from the principal to collect data from the staff. Permission was also granted for the implementation of Growth Mindset lessons and data collection to take place on the school grounds (See Appendix A).

Participants met the following selection criteria: They were all mainstream primary school teachers with class levels ranging from 3rd – 6th class. Eight participants (4 male, 4 female) partook in the study. The age range of the sample was 27-53 years and participants’ teaching experience ranged from 3–33 years. Participation was voluntary. No pay or incentives were provided in return for participation and the interviews took place outside of school hours.

3.2 Design

To facilitate gaining a deeper understanding of teachers’ experience, this study employed a qualitative research design with initial data collected in the form of brief qualitative questionnaires. The majority of the data were collected through semi-structured interviews enabling the researcher to focus on the research question while giving the participants the opportunity to describe their perspectives and relate their experiences of teaching Growth Mindset principles. Thematic analysis was carried out on the transcripts to answer the research question. Key variables of interest relating to the research question were considered by the researcher in designing the interview. These included: Familiarity with the
concept, value of teaching the concept, influence on pupil behaviour/engagement, facilitation of Growth Mindset within the Irish Curriculum and perceived possible obstacles/challenges to implementing a whole school growth mindset policy.

3.3 Materials and Apparatus

3.3.1 Recruiting and Briefing of Participants

The initial materials used were designed to present the research proposal to the principal and to brief the participants. Each participant signed a detailed informed consent document prior to embarking on the programme (See Appendix B & C). The material used for briefing the participants consisted of a PowerPoint presentation on the topic of Growth Mindset in education (See Appendix D).

3.3.2 Lesson Implementation Outline

The three ways suggested for educators to use in promoting Growth Mindset in students mentioned previously (See 2.6) were neuroplasticity education, valuing mistakes and providing constructive feedback. As this study focuses on the importance of educators in promoting Growth Mindset it was important that they were briefed on these three strategies. Dweck (2008) emphasised the importance of the teacher delivering a programme which values these qualities in order for children to believe in their own ability and improve with effort and persistence. These three factors were the focus of the lesson plans provided to the teachers and were highlighted in the briefing session.

An important aspect of the study was presenting to the teacher participants prior to their instruction of the lessons. “It may be particularly important to present the Growth Mindset information in a nonthreatening way to teachers whose curricula and teaching methods have been guided by a Fixed Mindset” (Dweck, 2008, p. 14). Four lessons were designed by the researcher in order to align with the Irish Primary Curriculum and so to
facilitate the ease of implementation into the teachers’ already vast curriculum and restricted timetable. The lesson materials, including the pack of lesson plans for each teacher and reflective Growth Mindset journals for each pupil are contained in Appendix E and Appendix F.

3.3.3 Interview and Analysis Materials

Participants completed a concise initial written qualitative questionnaire preceding any briefing or instruction on the topic (See Appendix G). This was used to ascertain any prior knowledge of, or opinions related to the topic of Growth Mindset.

On completion of the research study, the materials used were an initial demographic sheet which included a qualitative question along with interview guide questions and prompts used for the semi-structured interviews (Appendices H & I). The interviews were recorded using a Dictaphone recorder and transcribed with the aid of Express Scribe Transcription software. The data was analysed and a model of themes created using NVivo 10 Software. Demographics and quantitative data from the question were analysed using SPSS 24.

3.4. Procedure

3.4.1 Participant Recruitment and Briefing

The aim of this study was to qualitatively explore and describe the experiences of teachers instructing Growth Mindset in Irish primary school classrooms. On receiving ethical approval from Dublin Business School Ethics Board, the research proposal was provided to, and permission granted by the school principal for the recruitment process to take place during school hours in year group teacher meetings and for data to be collected on the premises. The lessons instructed by the teachers were designed for 3rd-6th class level and the principal acted as a gatekeeper in giving consent for research to take place on the school grounds.
On receiving a brief description of the research project, participants were asked to volunteer. Participants who were all over 18, were informed of the data collection process by interview and asked to sign informed consent documents prior to participating. Participants were informed that the results would be anonymous and of their right to withdraw at any point during the study. Initially participants completed a written survey with questions regarding prior knowledge of the topic before receiving a thorough briefing.

3.4.2 Lesson Instruction

Volunteer participants were required to attend an introductory presentation on Growth Mindset in which they were briefed on the topic and guided on how to implement the lesson materials created for the study. Each teacher was provided with a pack of four lesson plans plus additional follow up lessons and a Growth Mindset journal for each pupil. Participants were instructed to teach the lessons over a two-week period with a third week available to complete any content that was not covered in the allotted timeframe. They were encouraged to note any interesting experiences or observations throughout this process. Participants were also given the opportunity to ask questions to ensure their understanding of the concept and the main teaching points. They were encouraged to read further into the topic, approach the lessons with enthusiasm and give value to the concept. The focus of this research was to understand more deeply teachers’ experiences of growth mindset education and so their briefing was a central aspect of the study. Presentation of content took place after school on the school premises and participants were informed that interviews would be carried out in a similar manner.

3.4.3 Interviews
The most frequently used interview style for qualitative research is the semi-structured interview (Doody & Noonan, 2013). As the aim of the study was to gain a deeper understanding into the experiences of educators teaching growth mindset, semi-structured interviews were chosen as the most suitable method. Interviews were conducted individually with each participant on completion of the lessons. These interviews were designed to elicit information about the experiences of participation in the study. The semi-structured design included open-ended questions and included both planned and unplanned prompt questions. These questions were designed to explore the students’ and in particular the teachers’ response and attitudes towards implementing a growth mindset class programme. Interviews took place in an unoccupied classroom outside of school hours. Initial demographic information was completed on a written questionnaire and then oral interviews were recorded digitally. The five main topic areas discussed in the interviews are noted in design section (3.2) and can be found in the interview outline (See Appendix I).

To protect anonymity, each participant was given an ID number to ensure that transcriptions were not identifiable. If any content of the interview could possibly identify the participant this was not quoted directly in the published research. The interviews were then recorded and transcribed.

3.4.4 Thematic Data Analysis

This qualitative study used the steps of the thematic analysis method as outlined in Braun and Clarke (2006) to gain a better understanding of the experiences of teachers when implementing a Growth Mindset programme within Irish Primary Classrooms. “Thematic analysis provides a flexible and useful research tool, which can potentially provide a rich and detailed, yet complex account of data” (Braun & Clarke, 2006, p. 78). Using semi-structured interviews, eight teachers who volunteered to instruct explicit Growth Mindset lessons to
their class were asked to relate their experiences with particular emphasis on the perceived positive effects and/or obstacles in implementing such a programme.

Once the interviews were recorded and transcribed the data was analysed and placed into thematic categories in order to select themes. Braun and Clarke (2006) outline a number of decisions that should be made prior to analysis. Initially, what was considered to be a theme was selected bearing in mind the research question ‘What are the experiences of Irish primary teachers in implementing a Growth Mindset programme in the mainstream classroom?’ Both the prevalence of themes and their relevance in relation to the research question were taken into consideration when analysing the data. A detailed account of these themes selected from the data was outlined using the semantic approach to provide a comprehensive description of the data set from all of the interviews.

Themes were identified in an inductive manner and were data driven. The data transcripts in this case were coded to reflect the responses of participants as literally as possible in a way that answered the overall research question. Themes were generated in a model using NVivo. This type of analysis provides a detailed description of the data set with specific focus on teachers’ experiences. Themes were analysed at a semantic level. In this way the themes were identified within the “explicit meanings of the data” (Braun & Clarke, 2006).

In line with semantic analysis, thematic analysis was carried out within a realist/essentialist model, taking the language from the dataset as related directly to the experience and meaning of the participants. Much statistical and qualitative research of student samples has been carried out prior to this study. The approach of this study aimed to explore an area which has been overlooked – teacher experiences, aiming to describe teachers’ experience in as detailed and accurate manner as possible.
The overall research question allowed for a realistic, semantic analysis of the data. The interview questions and prompts were semi-structured to allow participants to talk freely about their experiences so that themes could be selected from the data itself on analysis rather than the researcher’s questions. Throughout analysis the data was examined in detail for themes that were both prevalent and were also given value/importance by the participants. In this way the interview and prompt questions did not lead directly to the questions that guided coding and analysis of the data but all served to answer the overall research question.

3.4.5 Supplementary data analysis

Demographic data was analysed using SPSS 24. The qualitative question ‘What would you say are the most important factors to student achievement?’ was represented with a different variable for each possible factor to allow for independent analysis of each. Participants chose from nine possible factors, they had the option to choose multiple factors or to add any other relevant factors. This data was coded and analysed using SPSS 24. Options suggested were: good teachers, school policy, government policy, individual pupil characteristics, pupil intelligence/ability, environmental factors, parental involvement, homework, motivation or other. The results for this analysis are presented in Figure 1 in the results section.

3.4.6 Ethics

Prior to conducting the study, a research proposal was approved by a DBS filter committee. Psychological Society of Ireland (PSI, 2010) guidelines were consulted in planning and carrying out the research. As the research took place in a school environment, it was vital that the principal understood the nature of and the procedure involved, therefore the proposal was provided to the principal to gain consent. Issues of informed consent and right
to withdraw were made clear to participants and the interview process was explained prior to each participant providing consent. Participants were also informed that all data collected would be anonymous and stored on a password protected computer. Written data was stored securely and only the research team had access to the data.

As teachers were participating in research in their own work environment they were made aware of right to withdraw if any issue regarding their work environment which made them uncomfortable arose throughout the research process.

The lessons were carried out with primary school age children, therefore participants were informed of the right to withdraw if any issue arose within the instruction of the lesson materials. Participants were also informed that direct quotes from participant teachers may be used in the published research but quotes would not be identifiable.
4. RESULTS

4.1 Demographics and Descriptive Statistics

Descriptive statistics were run on quantitative data using SPSS 24. Eight participants (4 male, 4 female), with an age range from 27-53, a mean age of 32.6 and a standard deviation of 8.7 participated in the research. Participants had a mean teaching experience of 9.5 years, ranging from 3-33 years and a standard deviation of 9.8 years. The majority of participants (62%) had a Bachelor of Education or equivalent degree with the remainder having completed Post-Graduate education.

Results from the written qualitative question regarding the teacher’s opinion to the most important factors affecting student achievement are presented in a histogram below (See Fig.1). Participants chose multiple factors in response to this question. The three factors considered most important by participants were parental involvement, environmental factors and good teachers. These results will be discussed in relation to the results of the thematic analysis of the data taken from each interview.
This study used thematic analysis as outlined in Braun and Clarke (2006) to gain a better understanding of teachers’ experiences implementing a Growth Mindset programme within their class. The researcher sought to explore this area which has been overlooked in previous studies, aiming to describe teachers experience in a detailed and accurate manner. Through semi-structured interviews ranging from 20-40 minutes, eight teacher participants who had instructed explicit growth mindset lessons to their class discussed their experiences with particular emphasis on the perceived positive effects and/or obstacles in implementing such a programme. Thematic analysis allowed for a detailed analysis of the interview material and the identification of patterns and themes in the data.

Initially the researcher became familiar with data through transcribing and reading interview responses. The data corpus was collected and transcribed first hand by the researcher which aided in familiarisation of the data through the interview process itself. Braun and Clarke (2006) describe the transcription stage as a most valuable stage in thematic
analysis which allows the researcher to give the data close attention, supporting interpretation and analysis.

Following transcription, initial codes were then generated using the entire data set of interviews and additional qualitative questions. This coding took place systematically using NVivo software. At this stage, any relevant content from the interviews that related the experience of the teachers was coded.

4.3 Transition from codes to themes

The third phase of thematic analysis involved the researcher organising and combining the initial codes into potential themes and accumulating all the relevant data. This data was then categorised into broad themes which were selected based on the explicit coded data. The codes were categorised into each theme. Sub-themes were created based on the relevant codes and their relationships to each theme.

Initial themes were subsequently reviewed to ensure that they effectively represented the coded extracts and data set. A thematic model was created using these themes and sub-themes. The themes were then examined again in relation to the whole data set and any refinement or necessary adjustments took place.

Ongoing analysis refined the themes and sub-themes further, creating clear definitions and names for each theme. At this point the researcher’s interpretation of the data and its relevance to each theme was used to outline each theme in detail. On completion of final analysis a report was produced which connected the themes back to the research question and the previous literature on Growth Mindset.

4.4 Themes
The process of thematic analysis outlined above led to the extraction of four overarching themes which serve to outline the experiences of teachers in implementing a Growth Mindset programme. Within each of the four themes are a number of sub-themes which combine in supporting the main theme (See Fig. 2).

Table 1. Summary of Themes

<table>
<thead>
<tr>
<th>Theme</th>
<th>Description and Subthemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating Growth Mindset School Climate</td>
<td>• Irish Curriculum</td>
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<tr>
<td></td>
<td>• Language</td>
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<tr>
<td></td>
<td>• Whole School Policy/Atmosphere</td>
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<td></td>
<td>• Mental Health</td>
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<tr>
<td>Growth Mindset Teachers – The need for</td>
<td>• Teacher Experiences</td>
</tr>
<tr>
<td>Professional Development</td>
<td>• Professional Development</td>
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<tr>
<td></td>
<td>• Achieving more together</td>
</tr>
<tr>
<td>Education begins at Home</td>
<td>• Challenges</td>
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<tr>
<td></td>
<td>• Role of Parents</td>
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<td></td>
<td>• Mental Health</td>
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<tr>
<td>Teaching Mindset – Give a little, Grow a</td>
<td>• Benefit for Teacher</td>
</tr>
<tr>
<td>lot</td>
<td>• Classroom Atmosphere</td>
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<td></td>
<td>• Language</td>
</tr>
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<td></td>
<td>• Mental Health</td>
</tr>
</tbody>
</table>

Fig. 2 Table of Themes and Sub-Themes

4.4.1 Theme 1: Creating a Growth Mindset School Climate
The first theme which featured across participant interviews was ‘Creating a Growth Mindset School Climate’. This referred to developing a whole school policy, implementing the Irish Curriculum. However, what arose from the interviews was that Growth Mindset needed to be embedded in the everyday life of the school, not just the curriculum. The value of treating it as more than just academic content was emphasised by participants. The concept of creating an atmosphere of Growth Mindset throughout the school for the well-being of the whole community was discussed.

Integrating Growth Mindset principles into the Irish Curriculum was something that seemed both logical and effortless to the teachers. Teachers’ opinion of the focus of the current curriculum varied with regards to it being goal/process focused but all participants believed that inclusion of mindset principles in Irish schools could be easily done. SPHE (Social, Political & Health Education) was suggested by participants as an ideal subject for integration.

Participant 4: ‘...as teaching it explicitly, the subject it definitely fits into is our SPHE hugely, and then it just kind of then, it can overflow into all your subjects.’

While SPHE was mentioned frequently, the notion that Growth Mindset was not merely a topic within a subject or a block of lessons but a methodology, resonated in a number of interviews.

Participant 3: ‘...it’s actually more an approach to teaching and learning rather than it’ll fit neatly into this little subject.’

The depth of the curriculum was seen as a challenge to some participants. The question of how to fit another topic; ‘Growth Mindset’ into an already full school day arose more than once.

Participant 6: ‘... the size of the curriculum. It is very hard to put it in.’
It was the teachers themselves who approached this challenge with a Growth Mindset, and using mindset principles as a tool was their proposed solution. Growth Mindset language could be used as a methodology.

Participant 7: ‘...I think it’s so broad at the moment anyway... I think we’re under so much pressure...to get all our twelve subjects in...This would cover all twelve.’

Language was a common sub-theme throughout each of the four themes. Using Growth Mindset language to facilitate other areas of the curriculum and boost achievement was a reoccurring suggestion.

Participant 2: ‘I think in things where you’ve children with mental blocks like maths and I’d have a few in my class...I am very conscious of how I use my words...I was encouraging, I don’t know would my language always have shown that.’

Teachers regarded Growth Mindset language as something of value that could be used throughout the day, changing the classroom and school atmosphere and having a long-lasting positive effect on not only student achievement but mental and emotional health too. This focus on helping pupils’ anxiety, self-esteem and emotional lives through the use of Growth Mindset was shared among participants.

Participant 1: ‘...for the attitudes and social interactions and self-esteem. Self-esteem is huge...huge’ and later ‘...it makes them feel good about themselves.’

Participant 4: ‘I’d hope that you could adapt it so that it would help...with their...feelings towards it or how they deal with things and situations.’

While specific reasons varied, all participants strongly believed that Growth Mindset would be best implemented as a whole school policy. The belief that this would benefit pupils in the long-term through repeated reinforcement of the language and concepts was explicitly mentioned throughout the interviews.

Participant 8: ‘I definitely think any initiative is going to be more successful if it’s supported on a whole school level because then... it’s a consistent narrative that they’re getting all the way through the school and from teacher to teacher it’s not gonna be a new concept.’
4.4.2 Growth Mindset Teachers – Need for Professional Development

While participants believed that the curriculum would facilitate implementation of Growth Mindset policies there was a strong emphasis throughout the interviews on the need for teacher-training/professional development. Participants found that teaching the lessons focused their skills and required them to look at the language they use in class on a daily basis.

Participant 1: ‘...in my own planning...sometimes I’d write it down...or just even you know in my own head...it’s something that I like prepare for during the day that you know, just focus myself in the mornings...to make sure that I’m implementing it at all times...’

The need for further training was highlighted on a number of occasions across the interviews. Training in areas like science and neuroplasticity was mentioned but also, and more frequently mentioned was guidance on how to implement the principles in the long-term. Teachers talked about professional development, not only in terms of understanding Growth Mindset, but developing the belief in Growth Mindset themselves and developing their language to consistently reinforce this idea in the classroom.

Participant 4: ‘I’d love to know more about it and to be more aware of what I can do...to help it rather than kind of teaching a lesson. I’d need to kind of really look at my methodologies or...my...like my language or how I’m responding...’

Participant 2: ‘I think a course in it where...you know, you showed me what it was and all of that but for me to get my head fully around it and to be able to teach it to the best of my ability I think I’d need...a lecture in it.’

All of the teachers were open to further training and the possibility of in-service training but the majority of ideas in relation to professional development were based around teachers sharing knowledge, ideas and experiences. This relates back to the idea of creating a Growth Mindset climate, where teachers celebrate learning and share knowledge with the goal of enhancing learning and achievement within the school.
Participant 5: ‘I don’t think it would be hard to implement ‘cause...a lot of it would be about the language you use and the expectations you have so if you were to have a big meeting and we all decided that we wanted our expectations to be high...of trying rather than results.’

4.4.3 Education begins at Home - Role of Parents

The third theme was the role of parents in shaping children’s mindsets. While this did not occur extensively across the data, a number of participants spoke strongly about the role of the outside environment in influencing children’s mindsets and in particular the role of the parents. Some participants spoke of the influence of parents as an obstacle, in that there was only a certain amount of influence that the teacher could have if the home life didn’t support a Growth Mindset. Others noted how easily a Growth Mindset could be observed in a child when looking at their life outside school.

Participant 3: ‘...all children will benefit from it, but if they’re coming from say a background where...they’re not being encouraged, that it’s a negative background, that their faults are always pointed out to them...Then it would be difficult for a school to turn that on its head.’

Participant 7: ‘I’d probably know by them...by their parents, number one...from interacting with their parents, meeting their parents and speaking to their parents and then the general characteristics of those two or three pupils.’

Others could see that the influence of the home environment had provided some pupils with resilience and a Growth Mindset attitude. They could see the difference in these children approaching challenges. Teachers told anecdotal stories about the students and how interaction with their parents and the outside world plays a huge part in the concept of Growth Mindset becoming meaningful to the pupil’s own experience. Students learned from personal role models that everybody makes mistakes and that the concept was related to their lives as a whole, not just a school subject.

Participant 5: ‘I can think of one girl immediately. Yeah she’s got a growth mindset and I think it comes from home. I think she’s been encouraged...at home and...she’d always say, ‘it’s OK once you try your best’ and she DOES always try her best and if something’s hard she doesn’t give up...’

Participant 7: ‘...the mother failed her driving test four times that he never knew about and that was a prime example. I was delighted with that. I made a big deal about that, how she didn’t give up and you know she went off, she practiced and repetition and...she believed in herself...and it was nothing
got to do with school. I think that’s what kind of emphasised it more to this particular pupil, that it wasn’t just the learning; the English, Irish and maths, it was everyday life.’

The significance of language arose again here. The language children listen to at home resonates with them. This is something that teachers found had a huge influence, no matter how much Growth Mindset instruction took place in school. The language of mistakes is one children learn early on and whether positive or negative, their attitudes have developed at home. The teachers felt that the pupils bring attitudes to school with them along with the expectations of their parents and families.

Participant 3: ‘You know you can do your best and you can try but I suppose…the home environment actually is more important in one sense because it sets the tone for children you know.’

This theme was also supported by responses to a question in the pre-interview questionnaire. The most commonly selected factor influencing student achievement chosen by the participants was parental influence (Fig.1).

4.4.4 Teaching Growth Mindset – Give a little, grow a lot.

A theme which arose quite unexpectedly but was very prevalent in the data was that of the benefit of teaching Growth Mindset to the teachers themselves. A vast majority of the teachers when discussing their experience made reference to it having a positive influence on their own teaching. They discussed the effect it had on their planning and assessment. They also mentioned how it made them feel better about their teaching. In this sense, teaching Growth Mindset principles has shown to have a reciprocally beneficial relationship on both teachers and students within the school.

Participant 1: ‘…I think it’s beneficial for everybody, children and teachers and if the two combined are happy you’re gonna have a happy classroom.’
In relation to teaching practices, the language of mindset was a regular topic, particularly how it focused the teacher in preparation of a lesson.

Participant 3: ‘...if I didn’t have a growth mindset in how I was interacting with them there’d be a voice in the back of my head saying...well hold on, you’re being critical here but you’re not actually being positive, you’re not showing you know, that’s the mistake...now what can you do about it...So it’s probably a way of reigning the teacher in as well.’

More than one participant reported that the instruction of Growth Mindset principles benefited the teacher by altering the classroom atmosphere in a positive way and even helping with classroom management.

Participant 5: ‘It really helps your classroom management I think, ‘cause the kids know you’re working for them kind of and it’s more of a team...vibe.’

Another benefit to teachers was to the development of their own mindset. Many of the teachers felt that their mindset influenced the instruction of the lessons and also the pupils’ mindset. They also spoke positively of applying the experience to their own lives.

Participant 6: ‘I’d be very fixed mindset so I was probably aware then as we came across some of the sayings that were in...the lesson plans that I realised how much a fixed mindset I had so...it probably made me more aware that the kids are probably the same and then to try and break it down for them more, to make it clearer for them.’

In summary, each participant found the experience a positive one and saw value in implementing this programme within their classroom. The benefits were perceived in different ways and participants saw different challenges to implementing a whole school Growth Mindset policy but certain themes were found consistently in the data. Growth Mindset should be a whole school policy, but more than that, the idea that it should permeate the whole school climate was clear. The need for professional development to ensure that implementation of these principles would be successful was highlighted. The role of parents in moulding and sustaining pupil mindsets was seen as both a challenge and an advantage in different cases but in each case it was seen has having a major effect. The benefits of
implementing Growth Mindset programmes on the lives of teachers was a strong theme which many of the teachers felt passionately about. A model of the themes and sub-themes can be seen in Fig. 3 below.

Fig. 3 Model of Themes
5. Discussion

The significance of Dweck’s (2008) Growth Mindset theory and its application to educational achievement has been widely documented (Aronson et al., 2002; Blackwell et al., 2007; Good et al., 2003). Numerous studies have focused on the link between student mindsets and academic attainment. The positive influence of mindset education on pupils’ achievement at all ages and particularly at periods of transition has been proven. Current research has also studied teacher effect on mindset interventions. Schmidt, Shumow and Kackar-Cam (2015) suggest that teachers’ beliefs and in turn interactions with students affected pupil mindsets. The importance of the teacher to the implementation of such interventions was noted.

The current study looked at an area which has been overlooked in relation to the recent Growth Mindset phenomenon – teachers’ experiences in implementing Growth Mindset programmes. This research aimed to qualitatively explore teachers’ experiences of implementing Growth Mindset principles and provide a richer understanding of this area to inform future planning and instruction in Irish primary schools. Using semi-structured interviews, 8 teacher participants were asked to describe their experiences of implementing a Growth Mindset programme. The interviews were analysed and information rich quotes were placed into themes with sub-themes in each case. Four themes appeared to represent the teachers’ experiences while supporting and expanding on current research.

5.1 Implications
5.1.1 Creating a Growth Mindset School Climate

While it has been previously suggested that Growth Mindset be implemented in policy making (Rattan et al., 2015), few studies have looked at how this would be executed. In the current study, teachers put forward their ideas on how Growth Mindset principles could be realistically integrated into the Irish curriculum. Through sharing of teacher experience and ongoing professional development, participants believed that a Growth Mindset school environment with reinforced language and concepts could be created. This would lead it to becoming a methodology and a tool for teachers to use in supporting academic achievement. This develops on current research which encourages policy makers to plan with Growth Mindset in mind. It also supports research suggesting the positive impact of creating a whole school climate. Sparks (2013) describes the need for a major shift in students’ and teachers’ sense of themselves and each other when working on school improvement strategies.

Participants believed that Growth Mindset principles need to be applied to every facet of school life for there to be a noticeable effect and this compares with current research such as Kahn and Slate’s (2016) report which describes the understanding of school climate as a ‘critical piece’ of the effort in developing student achievement. The findings of the current research have implications for policy makers, curriculum planners and teachers. Implementing a whole school Growth Mindset policy is something that according to teachers is feasible within the Irish primary curriculum. Curriculum planners could employ mindset principles as a teaching methodology across the curriculum. School self-evaluation plans might look at using Growth Mindset as an instrument in promoting student achievement. Using Growth Mindset principles as a tool for planning could affect pupil motivation and achievement nationwide.
5.1.2 Growth Mindset Teachers – Need for Professional Development

The teachers in this study stressed the need for ongoing professional development in order to implement a Growth Mindset climate in schools. The majority of teachers wanted to expand their knowledge in the area, particularly the neuroscience aspect. This aligns with current research. “In order to support learning it may be beneficial to have an understanding of brain development and what this means for a young person’s developmental drives, particularly during adolescence when the brain is rewiring and is highly sensitive to certain types of input” (Hohnen & Murphy, 2016, p. 85). Teachers would require some training to instruct Growth Mindset effectively and implications for teacher training colleges are obvious here. Student teachers should be studying the development of the brain and its ability to build connections over time. This will allow them to teach the topic of neuroplasticity more effectively but also to understand the brain processes occurring as their pupils are learning.

The concept of creating a whole school climate and language was emphasised by the teachers and is supported by research into Growth Mindset. Simple nuances spoken by teachers and how they can affect student motivation and achievement have been previously discussed. The participants in the study felt that sharing of knowledge and experience with peers was a positive way of developing professionally while simultaneously increasing the use of Growth Mindset language. ‘Proactive and productive’ use of peers was described as an effective strategy in assisting teachers in acquiring new skills (Joyce & Showers, 2002). The participant teachers in this study felt this was the most natural way of continuing professional development and in turn promoting student achievement. This has implications for leaders at school level. Time needs to be allotted for teachers to plan, discuss their experiences and share knowledge, materials and methodologies regarding Growth Mindset.

5.1.3 Education Begins at Home – Role of Parents
The impact of adult language on student motivation and achievement discussed previously was echoed when participants spoke of the role of parents in influencing a student’s mindset. Parents’ praise of young children can impact their later motivation as students (Gunderson et al, 2013). In addition to the language parents’ use, participants discussed how the parents are the most influential role models in pupils’ lives and this affects the mindset with which they come to school. The effect of parental involvement in developing student achievement is one that has been researched widely. More specifically, parental expectations of student academic ability has been seen to have a high impact on achievement (Wilder, 2014). Teachers saw the influence of parents on pupil mindsets as a possible challenge to overcome but also a potential resource as the parents often acted as relevant role-models for the children. This research has implications for parents, but more significantly the schools interaction and communication with parents. Parents should be made aware of the benefits of Growth Mindset instruction and should be encouraged to, and supported in engaging with these principles at home. Creating a whole school climate will only work to its full potential if the child is receiving the same messages from both home and school environment.

5.1.4 Teaching Growth Mindset – Give a little, grow a lot

The final theme which was prevalent across the data was the benefit of instructing Growth Mindset on the teachers themselves. Teachers spoke about their own mindset and the effect it had on the instruction of the programme. Participants believed that the teachers’ mindset played an important role but they also believed that instructing the lessons affected their mindset and consequently their skills as a teacher. It was also reported to affect classroom atmosphere and classroom management in a positive way, again leading to a more positive experience for teachers as well as students.
Carol Dweck (2015) uses the phrase; “Every student has something to teach me” and it is relevant here. The instruction of mindset principles was seen as a reciprocal process by the participants and the benefits of teaching mindset and engaging with the principles extended into participants personal as well as professional development. Participants felt that teaching the programme focused their planning and their teaching but also improved their own mindset with regards to their personal lives. Therefore, the findings show implications for teachers with regards to upskilling, teaching experience, personal development and job satisfaction.

5.2. Strengths and Limitations

The study was carefully thought out and used previous research as a resource to support planning the instruction of mindset principles within an Irish primary school setting. The principles to be instructed by the teachers were based on Dweck’s mindset research and this supported the effective instruction of the content to the participating teachers and in turn their students.

The planning and co-ordination of the mindset lessons and the data collection process ensured that while the research was designed to provide support for future planning and educational development it also was considered a worthwhile experience for participants involved.

Furthermore, the researcher’s experience working within the education system ensured that the materials used by participants were relevant to the primary curriculum. It also meant that interview topics were relevant to the implementation of mindset principles within in the Irish primary school context.

Finally, a major strength of the research was the professionalism and diligence of the principal and staff of the participating school. Without the support of the staff and the
significance they placed on the research within their already demanding work environment the study would not have been possible.

It is also important to note the limitations of this study. One limitation was the size and sample of participants. A purposive sample of teachers was used. The use of Irish mainstream primary school teachers was relevant and effective but all of the data came from a group of teachers working in the same school and community. Many of the teachers had similar years’ experience and had been teaching in the same school for a period of years. The school involved was a senior school with students ranging from specifically 3rd to 6th class. The school was based in an area of generally high socio-economic status and academic achievement. Therefore, this very specific sample may not be a generalised representation of the wider sample of teachers in Ireland and a possible drawback of the results. Research into schools of varying economic status, community support, academic achievement and wider age demographic is recommended for future study.

Another possible limitation of the study was that the research was being carried out in the participants’ workplace and related closely to their work environment. While participants were assured of the right to withdraw and of the complete confidentiality of the study they may have been less free with their responses to certain interview questions as their work environment was so closely connected to the study.

Time constraints were a further limitation of the study. Participants all reported wishing to continue the programme in their class and expected the positive impact of the programme to become more evident over time. It should be considered in future studies to carry out the research on a more longitudinal basis so as to get a much more detailed account of teacher experiences over time.

5.3 Future Research
The current research looked in depth at teachers’ experiences in implementing a growth mindset programme. The findings support previous research as to the success and value of Growth Mindset education. The need for more professional development and planning around Growth Mindset within the Irish primary school context was highlighted. Future research of a wider and more varied student sample would give a clearer reflection of the general population in the Irish education system. In addition to modifying the sample, supplementary research of a longitudinal nature would support the current study in gaining a deeper understanding of how Growth Mindset principles would fit in Irish schools.

Two themes which would particularly merit further research are the ‘role of parents’ and ‘benefit to teachers’. Research investigating parents’ language and praise has been previously discussed but a study to examine the benefit of school/home communication and combined efforts in implementing Growth Mindset would provide a deeper insight into how to implement these principles more effectively in the long-term. With regards to teachers, investigation into teacher mindsets and its effect on learning have been carried out (Gutshall, 2013) but research into the benefit for teachers is limited. The current study found that teachers themselves benefited greatly both professionally and personally from giving Growth Mindset instruction and this topic is one which should be explored in detail in future research.

5.4 Conclusion

The current study found positive experiences of teachers implementing Growth Mindset principles in an Irish primary school context. The four main themes that developed from the data had consistent links to developing a Growth Mindset school climate, encouraging professional development and parental involvement for the benefit of the whole school community. Research has shown that Growth Mindset education can cultivate student motivation and achievement. The current research supports and enhances this through
highlighting the fact that implementing Growth Mindset into Irish school policy is feasible and can be beneficial to teachers as well as students.

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Appendix A
5 October 2016

Re: Simone Minogue

To Whom It May Concern:

Ms. Simone Minogue has permission to collect data from staff members on school premises pending approval of DBS filter committee.

Yours sincerely,

[Signature]
Lynn Corcoran, (Priomhoide)
Information Sheet

Purpose of the Study: Development of a growth mindset in students has been shown to improve academic achievement. This study aims to explore the experience of primary school teachers (3rd – 6th Class) in implementing a Growth Mindset Programme within the classroom.

What will the study involve? The study will involve participants teaching a series of 4 lessons on Growth Mindset to their class. They will also encourage Growth Mindset within the classroom routine. Participants will take part in an audio-recorded interview on completing the lessons to discuss the experience. Direct quotes may be used in the published research; however no information will be included which may identify you.

Do you have to take part? Participation is voluntary. Participants who volunteer to take part in the research will have the right to withdraw at any point during the research process. If you decide to take part and want to withdraw your participation at a later date, you will not have to give a reason for withdrawing your participation.

Will your participation in the study be kept confidential? It will be ensured that no clues to your identity appear in the thesis. Any extracts from what you say that are quoted in the thesis will be entirely anonymous. Only the researcher (Simone Minogue) and research supervisor (Dr. Caroline Rawdon) will have access to the audio-recorded data and transcripts arising from this research.

What will happen to the information which you give? The data will be kept confidential for the duration of the study. Audio-recorded interviews and transcripts will be stored on the researcher’s password-protected computer. On completion of the thesis, data will be retained for a further twelve months and then destroyed.

What will happen to the results? The results will be presented in the published research project submitted to Dublin Business School. They will be seen by my supervisor, a second marker and the external examiner. The thesis may be read by future students. The study may be published in a research journal and results may be presented at a student conference.

What are the possible disadvantages of taking part? Inconvenience in having to plan extra lessons into your curriculum and attend an initial briefing meeting and interview outside of school hours. It is not envisaged that taking part in this research will incur any negative consequences. It is possible that talking about your experience may cause some distress.

What if there is a problem? At the end of the interview, I will discuss with you how you found the experience and how you are feeling. If you subsequently feel distressed, you should contact the researcher, or the Samaritans. (Contact Below)

Who has reviewed this study? Approval has been granted by Dublin Business School Filter Committee and Ethics Board. A supervisor from the Dept. of Psychology has approved the program and interview content.

Any further queries? If you need any further information, you can contact me:

Simone Minogue xxxxx@mydbs.ie

Samaritans ROI: Call: 116 123 Email: jo@samaritans.org

Appendix C

Participant: _____
Consent Form

I………………………………agree to participate in Simone Minogue’s research study.

The purpose and nature of the study has been explained to me in writing.
I am participating voluntarily.
I have had the opportunity to ask questions in relation to the study and my questions have been answered.
I give permission for my interview with Simone Minogue to be audio-recorded.
I understand that I can withdraw from the study, without repercussions, at any time, whether before it starts or while I am participating.
I am aware that in reporting the outcomes of the research study, no names will be recorded on any final thesis; rather information will be and collectively presented.
I understand that anonymised extracts from my interview may be quoted in the thesis and any subsequent publications if I give permission below:

Please tick one box:
I agree to quotation/publication of extracts from my interview.  

I do not agree to quotation/publication of extracts from my interview.

Signed: _______________________

Date: _________________
Appendix D
My Growth Mindset Journal

Name: __________________

Change your words...
Change your MINDSET!
What does it mean to be smart?

There is no right/wrong answer – this is your opinion. Circle T if you believe the sentence is mostly True and F if you think it is mostly False:

1. People are born either smart or not smart.  T  F
2. Some people aren’t very good or kind, and they can’t change that.  T  F
3. The more you work at something, the better you will be at it.  T  F
4. I don’t like doing things that are hard for me.  T  F
5. I sometimes get mad or upset when people tell me about my mistakes.  T  F
6. You can choose to change the way you think.  T  F
7. No matter how hard I try, there are some skills I’ll never be able to have.  T  F
8. You have to be born with talent for sports and music to be good at them.  T  F
9. I am glad when parents and teachers give feedback about my performance.  T  F
10. You can improve your talent in reading and maths with practice.  T  F
11. If spelling doesn’t come easy to you, you probably won’t ever be good at it.  T  F
12. I enjoy learning new things even when I don’t understand them at first.  T  F
13. The important parts of who you are as a person don’t change.  T  F
14. You can learn new things, but you can’t change how intelligent you are.  T  F
15. People who are truly smart people don’t need to try hard.  T  F
<table>
<thead>
<tr>
<th>I can train my brain through practice</th>
<th>I believe that I can do difficult things</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can choose my thoughts when things are challenging</td>
<td></td>
</tr>
<tr>
<td>Mistakes are ok, I can learn from them</td>
<td>I celebrate my own growth and progress</td>
</tr>
<tr>
<td>I can learn anything because I was born to learn</td>
<td></td>
</tr>
<tr>
<td>I take charge of my own learning</td>
<td>I encourage others to have a growth mindset</td>
</tr>
<tr>
<td>I know failure is an important part to my success</td>
<td></td>
</tr>
</tbody>
</table>

**I HAVE A GROWTH MINDSET!**
I was born to LEARN!

5 years ago, I didn't know how to...

Last year, I didn't know how to...

This year, I am learning how to...
Date: ____________
This week my learning successes were:________________________
__________________________________________________________
__________________________________________________________

One thing I found challenging: ________________________________
__________________________________________________________
__________________________________________________________

Strategies I used to help me learn: ____________________________
__________________________________________________________
__________________________________________________________

Mistakes I made that helped me learn: _________________________
__________________________________________________________
__________________________________________________________

Strategies I can use to help me improve next week: ____________
__________________________________________________________
__________________________________________________________
__________________________________________________________
I have trained my brain through practice!

I am good at:

I trained my brain to be good at it by:

I am good at:

I trained my brain to be good at it by:
### I CAN CHOOSE MY THOUGHTS WHEN THINGS ARE CHALLENGING

<table>
<thead>
<tr>
<th>Fixed Mindset</th>
<th>Growth Mindset Replacement Thoughts</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can't do this.</td>
<td></td>
</tr>
<tr>
<td>I'm so dumb.</td>
<td></td>
</tr>
<tr>
<td>I hate when I mess up.</td>
<td></td>
</tr>
<tr>
<td>I want to quit.</td>
<td></td>
</tr>
<tr>
<td>This is too hard.</td>
<td></td>
</tr>
<tr>
<td>I hate when I am corrected.</td>
<td></td>
</tr>
<tr>
<td>I'll never get it.</td>
<td></td>
</tr>
<tr>
<td>I wish I was smart.</td>
<td></td>
</tr>
<tr>
<td>This is good enough.</td>
<td></td>
</tr>
</tbody>
</table>

**Interview: A Mindset Role Model**
I interviewed ________________________________________
Because I admire how he/she____________________________
____________________________________________
____________________________________________

This person did NOT experience success when:
___________________________________________________
___________________________________________________
___________________________________________________

But he/she kept going by:
___________________________________________________
___________________________________________________
___________________________________________________

Through these mistakes, this person learned:
___________________________________________________
___________________________________________________
___________________________________________________

Those unsuccessful times helped ________________ experience
success later on because ______________________________
___________________________________________________

Success looks like!!

I can learn from my mistakes!!
When I make a mistake I can tell myself:

When other people make mistakes I can tell them:

When other people point out my mistakes, I can tell them:
Growth Mindset:
Lesson Plans & Teacher Journal

Notes for Teachers:
What motivates students to work hard in school? Some students try extremely hard and others don’t. Why? One theory is that of FIXED/GROWTH MINDSET.

• Your MINDSET is your belief and attitude about yourself, others and the world.

• A FIXED MINDSET – is the belief that we are born with a certain amount of intelligence, skills and abilities that can’t be changed.

• A GROWTH MINDSET – is the belief that one’s intelligence, skills and abilities can change with effort, practice and hard work.

Much research has shown evidence to prove that mindset can affect academic achievement!

How we PRAISE pupils makes a big difference.
- Praise for effort over praise for intelligence/talent.

The programme includes 4 lessons to be taught:

Lesson 1: I can learn anything, because I was born to learn

Lesson 2: I can train my brain through practice.

Lesson 3: I can choose my thoughts when things are challenging

Lesson 4: I know failure is an important part of my success.

Learning logs to be completed by pupils each week and can be continued after the programme has been completed.

Additional lesson ideas available – optional.

Lesson 1: I can learn anything, because I was born to learn
Lesson Objectives:
The students will understand that:
- All humans are born to learn
- They have learned a great deal so far in life
- They can take control over their learning

Curriculum Links:
- SPHE – Myself – Developing self-awareness, developing self-confidence
- English – Developing confidence and competence in using oral language, developing cognitive abilities through OL. Reading – developing interests, attitudes. Clarifying thoughts through writing.

Introduction:
Open the lesson by telling the children they are going to answer some True/False Questions. They should work alone and there is no right or wrong answer but they will look back over these answers in a few weeks and see if they still feel the same way. Teacher may read the questions aloud, and pause for the children to take time to answer them. On completing the questionnaire teacher can discuss what the pupils think the questions are about, have they ever been asked questions like this before.

Pupils can then look at the cover of the Journal containing growth mindset statements. Teacher can explain that the pupils will be doing some lessons in the coming weeks about this topic where they will learn about their brains and their mindsets (attitudes). Look at and discuss statements. Discuss Growth/Fixed mindset. What do pupils think?

Body:
Tell the pupils they are going to watch a short video and they should summarise the main points after. Show the ‘You can learn anything’ video: https://youtube/JC82Il2cjqA to the class.
Some main points may be:
- I can learn anything because I was born to learn
- Each wrong answer makes your brain a little bit stronger
- Failure is only another word for growing when you keep going

Pupils may watch the video again to look at the different clips.

Encourage the pupils to get into groups and discuss things they were unable to do when they were younger but have learned to do. They can then record this information in their journal and add something they would like to learn this year.

Conclusion:
Allow pupils to volunteer to share their responses from the boxes, in particular the third box – in anticipation of the learning for the year ahead. Summarise the lesson. What do pupils think a growth mindset is? Do they think everyone can learn challenging things? Will this help them to become smarter?

Lesson 2: I can train my brain through practice
Lesson Objectives:
The children will understand that:
- Doing challenging work is the best way to make the brain stronger and smarter
- The brain can be developed
- The brain is malleable

Curriculum Links:
SPHE – Growing and changing, Knowing about my body, Taking care of my body, Developing Self-confidence.
Science – Develop a simple understanding of the structure of some of the body’s major internal and external organs.

Introduction:
Recap the last lesson – what things have the pupils learned that they could not do before? How did they do this? How does a baby learn to walk? How did they learn to read/write? Elicit from students the concept of improving through practice and repetition over time. Often things seem easy to us, it’s because we like and enjoy those things, which means we do them often… and the more repetition we have, the better we become at them. Show this video: https://youtube/ELpfYCYZa87g which discusses neuroplasticity.
- This is a good visual introduction into the concept of how the brain can be rewired as we learn, practice and think differently.
- What is neuroplasticity?
- How does neuroplasticity work?
- How can you “rewire” your brain?

Body:
Show the pupils the next video on training your brain
https://www.youtube.com/watch?v=ElVUqv0v1EE
Ask the children to discuss times when they have overcome a struggle in learning and learned to solve a problem. Can discuss in groups and volunteer to report back to the class. Provide the children with their Journals and they can work on the second activity: Students reflect on how they’ve trained their brains over time. They come up with 2 things they’re good at and write/draw them in the boxes and then write/draw how they became good at them.

Conclusion:
Students can chat in groups/as whole class and brainstorm some commonalities e.g. practice, repetition, studying as strategies the class use to improve/learn.

Lesson 3: I can choose my thoughts when things are challenging
Lesson Objectives:
The children will understand that:
- People have different mindsets (attitudes) to learning
- They can change their mindset with practice
- They can control their learning

Curriculum Links:
SPHE – Developing Self-Awareness, Making Decisions, Developing Confidence.
English – Developing confidence and competence in using oral language, developing cognitive abilities through OL. Reading – developing interests, attitudes. Clarifying thoughts through writing.

Introduction:
Remind the pupils of the term ‘Fixed Mindset’ – Explain to the class that it refers to the belief that our basic qualities (like intelligence and talents) are fixed traits that cannot be changed. People who have a fixed mindset believe you are born with whatever intelligence or talents you have and if you’re not good at something naturally you can’t develop it very much.

Body:
Have the students look at the list of phrases in the next page of their journal. Reflecting on the term fixed mindset what do they think of these phrases? These statements can be read aloud. Are they helpful or harmful statements?

Explain to the students that they can **CHOOSE THEIR THOUGHTS** – they don’t have to believe every idea that comes into their head. When a negative/harmful/fixed mindset thought comes into their head, they can choose to change it into a GROWTH MINDSET thought. Explain and show what a growth mindset thought is. (The belief that abilities can be developed through growth and hard work)

Tell the students they are going to brainstorm some Growth mindset thoughts to replace the fixed mindset thoughts on the page. Give them examples e.g. they can replace ‘This is too hard’ with ‘I will get better over time’ or ‘I can’t do this’ with ‘I’m going to try a different strategy’.

Give the pupils some time to work in pairs/groups to come up with Growth mindset statements. They can also come up with some other examples.

Conclusion:
Recap lessons to date – Fixed/Growth mindset, Brain-Training, Neuroplasticity
Optional: Pupils could for homework/in art class take a phrase each and make a poster to display the difference between fixed/growth mindset statements.

Lesson 4: I know failure is an important part of my success
Lesson Objectives:
The children will understand that:
- Success is not all about abilities/talents we are born with
- Mindset has a huge part to pay in success
- Mistakes/failures can teach us lessons and help us to grow
- Hard work is important in achieving success.

Curriculum Links:
SPHE – Developing Self-Awareness, developing self-confidence, Decision Making, Myself and Others, Media education.
History – Story – stories of lives of people in the past
English - Developing confidence and competence in using oral language, developing cognitive abilities through OL. Reading – developing interests, attitudes. Clarifying thoughts through writing.

Introduction:
Write up on the board: Do successful people ever fail?
Encourage the pupils to discuss this statement. Who are people they consider successful?
What does it mean to be successful? What does it mean to fail? Is failure ever a part of success?

Body:
Show the pupils the video ‘Failures are the Pillars of Success’. (This video moves quite quickly – you may want to pause after clues to give the pupils time to talk/guess who the individuals are. You may also want to read the words aloud as they appear/pause to give the pupils time to take it in.)

https://youtube/M-3Fs4zGjDU

Discuss other examples of successful people who have faced challenges. Examples below.
No female role models in video so can refer to these examples below e.g. Marilyn Monroe, Oprah Winfrey, J. K. Rowling. (Next slide) Take examples from the class of successful people they know of.

Ask students to think of any people in their own lives that have overcome obstacles… however great or small.
Explain to students that they will interview a person they admire and find out about his or her failures and path to success.
Refer to journal with interview question template/interview report template.
They can present their interview findings in the next lesson.

Conclusion:
Discuss the success of these individuals in relation to growth mindset – a common theme throughout their lives.

Lesson 5: I learn and grow from my mistakes (Optional)
Curriculum Links:
SPHE – Developing Self-Awareness, Self-confidence, Myself and others, Relating to others

Introduction:
Recap Growth mindset topic to date. Definitions of fixed/growth mindset. Examples of fixed/growth mindset statements. How successful people have overcome challenges.

Discuss the statement that ‘Mistakes are challenges that can help us’
Remind the pupils of the term neuroplasticity – discuss its meaning.
Show the pupils the Ned the Neuron video discussing Neuroplasticity and you want them to listen for important points: https://youtube/g7FdMi03CzI
- Nice explanation of how the brain works, can grow and change.
- What is neuroplasticity?
- What makes your brain stronger?
- What is a challenge? Can you think of examples from the video? Other examples?
- Why do mistakes help us learn?

Important points:
- Our brains change (neuroplasticity) every day
- Taking on challenges (things that are hard for us) makes our brain stronger
- We often make mistakes when we try challenges and this strengthens our brains
- The brain is made up of millions of small parts called neurons, and neurons learn from mistakes
- Challenges become easier with more practice – they are opportunities for our neurons to grow

Body:
Discuss with the students – If successful people fail sometimes and if mistakes strengthen our brains, should we be afraid to make mistakes?

Should we be embarrassed to make them? Explain that it is natural to feel embarrassed when we make mistakes or feel bad but we can overcome those feelings by replacing our thoughts with Growth mindset thoughts.

(Recap)
What are some appropriate things we can say to ourselves when we make mistakes?
Brainstorm and record in Journal. Possible suggestions e.g. Mistakes are ok – how I respond to them is what counts, Mistakes help me learn, I will get better with practice etc.
Also draw attention to the fact that sometimes it’s very hard when other people notice/comment on our mistakes. Rather than pointing out mistakes – are there things that we can say using a growth mindset. E.g. you could try a different strategy, Here’s how I did it etc.

Additional lessons activities
1. **In-depth science** – neuron lesson – 5th/6th Class
   Additional comprehension available

2. **Letter to a future student**
   Take a few minutes to think of a time when you overcame a struggle to learn something. It could be anything - from learning about multiplication to learning a technique in P.E. to writing a debate. Think about the times when you failed at first but through persevering your brain created new neural connections and you eventually became better at the task at hand.

   Write a letter to a future student of your class about this struggle. In at least five sentences, tell this student your story and give them advice on what they should do next time they encounter an obstacle when learning something new. An example is below. Feel free to be as creative as you would like.

   **Dear Future Student,**
   *When learning my multiplication tables I found it really hard to memorise the 7’s table. With 5 and 10 there’s a pattern to their products, but 7 really gets complicated. I got kind of down for a while, but then I remembered how I learned to make free throws in basketball. It took try after try to get them in. I had to start from two feet from the basket and keep practicing my form. Only after a long time could I make them in with some consistency. With that in mind, I stuck with it and learned all the way from 7 x 1 to 7 x 12. Even though it took me a little longer than other students at that time, I am now able to remember them very easily. Stick with what you’re working on. The struggle means you’re getting close.*
   Sincerely, Charlie

3. **I can take charge of my own learning – future goals**
   Lesson challenging students to take charge of their learning in a new area. They choose a skill they wish to develop. Outline the steps that will help them achieve their goal and what strategies to use if they face challenges.

4. **Encouraging others to have a growth mindset**
   What is something every child should know about growth mindset? Students prepare a short presentation for another class highlighting what they feel are the main points.

5. **How I have changed my mindset**
   Revision of topic material to date. Go through the initial lesson questions. Students can highlight statements they now believe to be true.

   Discuss with students areas they have applied the concept in their lives. Have they shared the information with others? Can they see people in their lives who have a growth mindset? Brainstorm any vocabulary the students might need from the unit.

   Students can write a piece showing how they have changed their mindsets over time and how they will continue to do so.

   We sometimes get defensive when people point out our mistakes – are there growth mindset statements that we could say to ourselves in these situations? People with growth mindsets...
welcome feedback as it will help them to grow and learn. Examples of responses might be – Thank you for your advice, I’ll think about that, I’ll consider what you have said. Separate groups could come up with each of these three categories or whole class could brainstorm each. Ideas can be recorded in journal.

**Conclusion:**
Draw students’ attention to the ‘Mistakes’ page in the journal. For the next week pupils should pay attention to mistakes they make and how they deal with them. They should also look at how they approach others who make mistakes. They should reflect on how they approach mistakes and learn from them.

As an example the teacher may model how to complete this page using a mistake he/she has made in the last week.

Adapted from:


Embedding growth mindset into classroom routines – suggestions

- Teach children more about *science and neuroplasticity*. Many online videos/lessons available if your class are finding this topic interesting.

- Create a *growth mindset notice board* in your class/school – reference it regularly. Allow students to personalise it.

- *Guide students to practice choosing their thoughts*, drawing attention to fixed growth mindset statements. E.g. If you hear a student say a fixed mindset statement in class you could get them to suggest a growth mindset statement that might replace it.

- *Model growth mindset yourself*. Show students how to respond to setbacks and failures. Let students see you brainstorming solutions using different strategies. Let students know that you too are willing to learn/try new things, even when it’s hard for you.

- *Respond to student mistakes in a casual way that helps them rebound*. When we over react to mistakes or get frustrated with student’s inability to accomplish a task, we undermine the message that failure is a part of learning. If the student is trying, make it your goal to respond in a growth mindset way to mistakes. ‘Mistakes don’t upset me. We can fix this and learn from it.’

- Explain how *classroom routines are designed to benefit their brains*. The collaborative learning they do in class helps them process information better, and grow dendrites. Even reminding simple things like drinking water helps brains to function well and encourage children to be healthy.

- Using *specific feedback and vocabulary* that guides students to identify how they achieved success. ‘This was hard for you, but you worked really hard and now you’ve almost got it!’ Ask students themselves to self-report/self-assess.

- *Reward effort, not intelligence*. When students accomplish a goal and we respond with ‘You’re so smart’ we send a message. We undermine the effort that students put in and reinforce the idea that success is due to natural, fixed abilities. Try to focus on praising effort and encouraging them to take on challenging tasks, outside their comfort zone.

- *Encourage students to try new things and take risks*. Be supportive when students make attempts at new things or try something different, even when they don’t tackle the problem in the way you would. This helps students develop perseverance and grit. If students say something like ‘That was so easy, I didn’t even have to try’, you could respond with ‘I’m sorry that didn’t challenge you. Let’s find something new for you to learn.’
Space is provided for you to record any thoughts that occur to you or observations you come across in teaching this programme.

This is for your personal use only.

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Initial Questions
1. What is your current understanding of the terms ‘Fixed Mindset’ / ‘Growth Mindset’?
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

2. What experience of these terms (if any) have you had?
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

3. Do you think intelligence is something that can be changed or not?
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

4. Do you think talent is something you’re born with or something you can develop?
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

5. Do you feel the Irish Curriculum/teaching in Ireland is goal focused/process focused? Do you think this could be changed in any way?
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

Participant ______

Appendix H

Demographic Information
Participant: ________
<table>
<thead>
<tr>
<th>Gender:</th>
<th>Male □  Female □</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age:</td>
<td></td>
</tr>
<tr>
<td>Years spent teaching</td>
<td></td>
</tr>
<tr>
<td>What class do you currently teach?</td>
<td>3rd □  4th □  5th □  6th □</td>
</tr>
<tr>
<td>What is your highest level of education?</td>
<td>B.Ed. □  B.A. □  H.Dip □  M.A.□</td>
</tr>
<tr>
<td>Other:</td>
<td>_________________________</td>
</tr>
</tbody>
</table>
| What would you say are the most important factors to student achievement? | • Good Teachers □  
• School Policy □  
• Government Policy □  
• Individual pupil characteristics □  
• Pupil intelligence/ability □  
• Environmental factors – home, neighbourhood life etc, □  
• Parental Involvement □  
• Homework □  
• Motivation □  
• Other: □  
___________________________________________________  
___________________________________________________  
___________________________________________________  
Any other comments? | | |

**Interview Questions and relevant prompt questions.**
1. **How familiar were you with the concept of fixed/growth mindset prior to teaching this programme?**

How familiar do you think policy makers and curriculum planners are with these mindset principles? 
Has your understanding of the concept changed since teaching the programme? If so, how? 
Did you feel your own mindset had a part to play in implementing this programme? How so?

2. **Can you describe your experiences of teaching this concept to your class?**

   - **Classroom Value:**
     Can you tell me some of the things you found worthwhile? 
     Can you tell me some of the things that you didn’t find worthwhile? 
     How does teaching growth mindset affect your expectations of teaching and learning within your class?

   - **Students:**
     Do you think the children grasped the concept easily or was it difficult for them to understand? 
     Were there any concepts that the pupils struggled with more than others? 
     Would you think there were many pupils with growth mindset already in your class prior to teaching these lessons? How could you tell? 
     Were there students that it was easier to teach this topic to than others? What type of student was easier/more difficult to teach this topic to? 
     Are there any groups of children you would foresee finding difficulty with/benefiting from learning this concept?

3. **Were there any noticeable changes in pupil behaviour/engagement?**

How did pupils respond to ‘effort’ vs ‘ability’ praise? 
Do you think mindset principles can be applied to other areas of school life, along with academic?
4. **Can growth mindset principles work in a classroom alone or do they need to be supported on a whole school level?**

Do you think instruction of mindset principles could have any effect on testing processes within the class?

What supports/if any need to be in place to promote long term growth mindset in the classroom?

5. **Do you think the Irish curriculum would facilitate integration of mindset principles?**

Where, if possible, do you best see possibilities for integrating this topic within the curriculum/in your teaching?

How important is the science aspect of growth mindset in teaching the concept?

How did you engage with growth mindset principles implicitly within your classroom?

Do you think it would be worthwhile assessing pupil mindset? Why/Why not?

Do you feel more training/professional development in growth mindset would be relevant?

What areas of mindset education would you consider necessary for training with teachers?

What challenges (if any) would you foresee in implementing a whole school growth mindset policy?

Do you foresee any challenges in implementing these principles long term?

6. **Do you think you will continue to teach a growth mindset in your classroom? Why? Why not?**

Do you have any other comments/thoughts about implementing the area of growth mindset within the classroom?