

‘My Learning Powers’: Staff Perceptions of a Whole School Growth Mindset Intervention in a UK Primary School

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Word Count: 10294

9/7/18

Abstract

Originally coined by Carol Dweck (2017), Growth Mindset approaches are increasing in popularity in British Schools. The belief that intelligence is malleable and not fixed leads to the notion that difficulty and effort are valuable in the learning process by way of increasing the individual's opportunity for success in a chosen domain. Many studies in high schools look at the short-term effects of a Growth Mindset intervention in the belief that mindsets can be altered and pupils encouraged to adopt incremental theories of intelligence, to benefit their learning (e.g., Donohue, 2012, Farrington et al, 2012). A few studies of primary school interventions are beginning to appear (Seaton, 2018, Fraser, 2018). However, none of these studies appear to examine a longer-term, embedded, whole-school ethos based on Growth Mindset principles. The current study addresses this gap in the literature through an exploratory case study example of an English primary school, where the Growth Mindset approach has been part of school policy and practice for over three years. Key themes that emerge are discussed and features of the innovation are mapped onto an implementation model (Greenhalgh et al, 2004). Implications for pedagogy and further research are considered.

Key words: Growth Mindset, Whole School Intervention, praise, primary school, implementation, intelligence.

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All names and details have been removed from this research study to prevent the identification of participants and to protect anonymity. The school is referred to as the 'case study school' throughout the report in the current submission.

1. Introduction

The current research topic was presented as part of the University of Manchester's research commissioning programme for the Doctorate in Educational and Child Psychology (D.Ed.Ch.Psychol.) training course. It is commissioned by the University of Manchester in collaboration with an independent provider of educational psychology services and a primary school which has been implementing a growth mindset approach to the curriculum for four years in a whole-school, fully-embedded, cross-curricular way.

The researcher has an interest in the concept of growth mindset and incremental theories of intelligence (Dweck, 2000), having previously worked at a high school where the concept was introduced, with some enthusiasm, by a group of colleagues. Whilst the high school programme was never formally evaluated, there was anecdotal evidence of its success; students appeared to have improvements in attitudes to learning and in their ability to take on challenging tasks. The adoption of a growth mindset approach in the classroom had an impact on the current author and was an encouragement in training for educational psychology. It was, therefore, already an area of interest for future research.

Growth mindset interventions are growing in popularity in mainstream primary and secondary schools across the UK. Educational Psychologists are required to use evidence-based interventions, which have been proven through research to have a measurable benefit (British Psychological Society, 2015). Whilst many would support the work of Dweck and colleagues in the USA (e.g., Dweck, 2000), most of the evidence supporting programmes such as Brainology (www.mindsetworks.com) is drawn from laboratory-style studies of short-term intervention programmes at an individual level. A few UK-based, whole-school intervention studies are starting to emerge. However, at the time of writing, none of these would appear to address the benefits of a long-term, fully embedded, whole-school growth mindset approach. The current study will inform subsequent larger scale studies and aims to evaluate staff perceptions of the current programme being used in the primary school. It will also describe something of the programme itself, in a way that can inform others seeking to develop or to implement such a programme in their own school. The researcher is particularly interested in looking at the process of implementation of the programme (Lendrum and Humphreys, 2012), given that the case study primary school has worked on this and developed it over

the very long term (four years to date), whereas the high school previously mentioned has largely abandoned elements of the programme, after a year or so of intense activity during the initial implementation period.

2. Literature Review

In order to carry out a detailed review of the literature around the topic of growth mindset interventions in schools, the following databases were interrogated:

Ovid PsychInfo, The University of Manchester's online library, the British Psychological Society database, Google Scholar, Assia. Grey literature was also explored, especially articles by Carol Dweck and in the British Psychological Society's magazine, 'The Psychologist'. A hand-search of journals held by the researcher and colleagues was also made. Finally, books, journals and articles recommended by the commissioning school were included. A range of key words were used to direct the search, namely 'growth mindset', 'learning dispositions' and 'whole-school intervention'. The search was restricted to the last ten years to find the most relevant to a quickly-changing school curriculum and environment, and to English language papers.

The study of how children learn takes into account both the social context in which learning takes place and the beliefs of children about their role in learning (Weiner, 1986). Carol Dweck (2000) framed these ideas as 'self-theories'; the way that young people viewed themselves and the world has a considerable effect on their motivation for learning and their ability to overcome setbacks and challenges. Dweck (2017) was drawn to the idea that, just as Seligman's dogs (Seligman & Beagley, 1967) gave up on effortful activity in the famous 1960's experiment, so some children and young people can become so demoralised by their attempts to learn following failure, that they simply give up. To others, however, the idea of a challenging activity that may involve effort is a delight and motivates them to accept and overcome further challenges. Dweck identified something she called implicit theories – theory of how individuals view their own ability and intelligence. These are divided between a fixed or entity mindset, implying that intelligence is fixed and outside of our control and a growth or incremental mindset, suggesting that intelligence, abilities or talent can be developed through effort over time. According to the literature (Dweck, 2017, Seaton, 2018), individuals with a fixed mindset are likely to value end results or performance over the learning experience

itself. Successful outcomes are seen to validate their belief in their own ability, while failure is to be avoided as this shows they are not clever enough to have been successful (Seaton, 2018). Individuals with a growth mindset, however, appear to enjoy the process of learning and the mastery of new skills. Failure in this context is viewed as an opportunity for further learning and growth and is therefore to be embraced as a challenge rather than avoided as a setback (Dweck, 2017). If the growth of intelligence is within their control, then there is every point to be made in applying oneself with real effort to the task in hand. Dweck's work is supported by a review of interventions, where it was found that beliefs about intelligence have more impact on school performance than actual ability (Farrington et al, 2012).

Growth Mindset, the term coined by Dweck (2017) is widely used in schools across the United Kingdom. An online instruction course for pupils is available under the commercial name 'Brainology' (www.mindsetworks.com). Some studies of the effectiveness of this approach have started to emerge (Lambert, 2016; Seaton, 2018; Hochanadel & Finamore, 2015). One study casts some doubt as to whether the intervention has any long-term effect (Donohoe, Topping & Hannah, 2012). Another (Rienzo, Rolfe & Wilkinson, 2015) was inconclusive in its findings; it is not entirely clear what the workshops in this study actually covered or whether those delivering the workshops (non-teaching staff) were competent in dealing with the behaviour management issues they encountered. The findings show promise, however, and would indicate that further investigation of theories of self and their effect on children's motivation is needed. Whilst the children in the study cited above (Rienzo et al, 2015) attended workshops to raise their awareness of the benefits of adopting a growth mindset, it does not appear that the staff of the schools involved were similarly trained or monitored. It is noted elsewhere (e.g., Seaton, 2017) that teachers' beliefs about the ability of their students to overcome difficulties does affect the motivation of those students to do so, as do the beliefs of their parents (Gunderson et al, 2013).

Whilst there is one study cited above (Lambert, 2016) looking at the way a Growth Mindset approach has been applied in a UK secondary school and another in a Scottish primary school (Fraser, 2018), there is at this stage no example of a single school case study of an English primary school. The indications are that the approach may have some

benefits for the motivation of students for their learning. However, with the exception of the two studies in Scotland, (Seaton, 2018, Fraser, 2018), it is difficult to ascertain what exactly is being implemented in the schools in question and what the longer term effects of the programme might be. The way that an initiative is implemented can affect the initiative negatively, such that a ‘type iii error’ is made and an initiative is wrongly abandoned as ineffective (Bell, Summerville, Nastasi, Patterson & Earnshaw, 2015). Conversely, it could not be assumed that a favourable outcome was a direct result of the studied intervention and not a simultaneous one. It would therefore appear to be important that the implementation of a growth mindset intervention is scrutinised more closely to prevent this from becoming another initiative that is abandoned for the wrong reasons a few years down the line (Lendrum & Humphrey, 2012).

It was decided, therefore, to conduct an exploratory case study in one UK primary school, to establish what is meant by a growth mindset approach and how this has been interpreted and developed for one setting. The study will look particularly at staff perceptions of growth mindset, to ascertain in some detail what the approach actually looks like in the chosen school. This could lead to further research to examine the usefulness of the intervention in its present form in the school and whether adaptations to the programme in the particular setting have strengthened the intervention in a particular way which could be of benefit to other primary schools using this approach (Lendrum & Humphrey, 2012).

3. Research Question

What are staff perceptions of a whole school growth mindset intervention in a UK primary school?

4. Methodology

4.1 Epistemological Position

As this is an exploratory study, the researcher has adopted an epistemological stance of critical realism. Critical realism provides a balance between the social constructionist perspective, where reality is subjectively held within the individual, and a positivist

stance, where it is understood that the social world can be objectively studied, without any affect from the observer or researcher (Kelly, 2008). Whilst individual perceptions of reality are a part of the study within individual interviews, the emphasis will be on the systemic approach to growth mindset as an intervention across the whole school. Critical realism is concerned with the social structures and mechanisms that are in place to create the setting in which sense can be made of social phenomena. Truth is seen as created within the social structure – in this case the school and the intervention programme – and not individually owned. It is nevertheless recognised that the researcher plays a role in creating the truth that is revealed through the research and is not a detached observer (Burden, 2008). The present study is underpinned by a logic of ‘retroduction’, described as ‘moving from the level of observations and lived experience to postulate about the underlying structures and mechanisms that account for the phenomena involved’ (Mingers, 2003, cited in McEvoy and Richards, 2006, p. 71).

4.2 Design of the Study

The study employs an exploratory, single case study design with embedded units of analysis as described by Yin (2014). The use of single school case studies is supported by practitioners who value the real-world situations that can be brought to light outside of a laboratory setting (Kennedy and Monsen, 2016). The current research was commissioned by a UK primary school, in conjunction with their bought-in educational psychology service (EPS) and the University of Manchester. The collective aim was to examine the usefulness of Growth Mindset as a whole-school approach and to explore critical factors for the success of the programme through soliciting the opinions and thoughts of school staff. All those interviewed had a willingness to take part in the study in order to develop and improve practice. The nature of the research evolved through consideration of the literature around Growth Mindset and discussions with school staff at the planning stage. Semi-structured interviews were used, to enable the researcher to direct the content of the interview, whilst allowing some space for the participants to bring up issues of importance to them. The table below lists the embedded units of analysis for the study. Units of analysis serve as illustrative examples of aspects of the case (Yin, 2014). These examples also informed the questions in the semi-structured interview

schedule and are cross-referenced within the schedule to demonstrate where these link to the collection of data. The systematic collection of data in this way – having three interviews with similar questions – gave some structure to the data collected and facilitated the comparison of responses from the three interviews. However, in line with the critical realist epistemology of this study, the interviews were semi-structured, allowing for participants to bring their own ideas into the research and leading to topics outside of the units of analysis listed here (Grbich, 2012).

Table 2: Units of Analysis

<p>Unit of Analysis 1: Staff perceptions of motivational tools before Growth Mindset</p>	<p>Unit of Analysis 2: Staff first perceptions of Growth Mindset and initial thoughts before implementation.</p>
<p>Unit of Analysis 3: Staff perceptions of implementation of Growth Mindset</p>	<p>Unit of Analysis 4: Staff perceptions of effect of Growth Mindset on teaching style and teaching practice.</p>
<p>Unit of Analysis 5: Staff perceptions of effect of Growth Mindset on delivery of praise to pupils.</p>	<p>Unit of Analysis 6: Staff perceptions of implementation of Growth Mindset at management/systemic level.</p>
<p>Unit of Analysis 7: Staff perceptions of evaluation of Growth Mindset in school.</p>	<p>Unit of Analysis 8: Staff perceptions of parent embracement of Growth Mindset in school.</p>

4.3 Sampling and Participant Recruitment

The research follows a single case study design and the school in which the research took place needed to be a school where a Growth Mindset programme was embedded. Purposive sampling was used both in selecting a school which already had this programme in place and in the selection of participants, volunteering on an opt-in basis.

In addition, the school had been part of the original research commissioning group. Following clearance from the University Ethics Committee (Appendix 1), the researcher met with the school’s Growth Mindset Lead Teacher and members of the research commissioning team (from a privately run educational psychology service and the University of Manchester). The researcher was guided by the lead teacher as to who should be approached to take part in the study. This was a second application of purposive sampling as volunteers needed to be well versed in the programme under scrutiny and should have been at the school for long enough to have seen the programme in action over a period of time. All participants volunteered to take part in the study and were not obliged in any way to be interviewed. It was made clear at the outset that taking part or not doing so would have no bearing on performance management within the school and that every effort was to be made to conduct the interviews during school time with adequate cover for the participants’ usual role. The criteria which determined whether a volunteer would be included or not are listed in table 2 below.

Table 3: Inclusion/Exclusion Criteria for Participants

Inclusion Criteria	Exclusion Criteria
Had worked at the school for more than 5 years, ie were at the school before the Growth Mindset initiative began.	Worked at the school for less than 5 years.
Had regular daily contact with pupils in school in a learning or pastoral capacity	Less than 60% timetable/ Office staff/School maintenance team.
Consent to interview being recorded.	Not able/willing to be recorded during interview.
Likely to be in school for the duration of the research period – up to 3 years to include follow-up study.	Risk that they may leave school or be unavailable for the research period e.g. Maternity leave, retirement.

Three members of staff who met the inclusion criteria were approached by the lead teacher to take part. In addition, the lead teacher met with the researcher for a follow-up interview. This permitted the researcher to clarify points made in the three interviews and to check information, such as time scales for the implementation of the programme.

The lead teacher was also able to assist the researcher in locating school documents such as the Home Learning Policy, to permit triangulation of data from the interviews.

All participants had been members of staff at the school for a long time. The range of time that they had worked at the school was from 9 years to 23 years. In addition, one member of staff attended the school as a child, as had her mother before that and more recently her son (now at high school) and her niece (currently in school).

In line with the need to adhere to the principles of practice-based evidence and to maintain fidelity of measured outcomes from the interviews, all participants have knowledge of the growth mindset agenda and policy as used by the school and have attended the whole-school training on growth mindset. Participants were provided with an information sheet about the research before the start of the interview process (Appendix 2).

4.4 Data Gathering Methods

Three one-to-one interviews took place with each of the main participants and these were recorded onto a dictaphone. The recordings were then transcribed by a professional transcriber recommended by the research commissioners and thoroughly checked for accuracy by the researcher. In addition to the interview transcriptions, the researcher had access to a number of documents via the school's website, including the school mission statement, the behaviour policy, the SEN policy and communications with parents with regard to Growth Mindset. Documents relating to praise and reward systems were of particular interest as it was thought that these might reflect the Growth Mindset initiative. Access to documents allowed for some triangulation of data from the interviews and the verification of statements made by participants. Interview questions were designed to be as open-ended as possible (Appendix 4) to elicit detailed and honest perceptions from participants but were structured to stay within the remit of the current research question. During the interviews, the researcher attempted to adopt the stance of 'interested listener' (Finlay, 2006) in order to elicit as natural a response as possible. A further source of valuable data was the researcher's own research diary which was used to informally record observations and opinions during the researcher's time in the school

and enabled the researcher to build a narrative around the events pertaining to growth mindset as this evolved in school. It was also a source of reflective commentary on the whole research process. Research diaries are recognised as a valuable source of additional information to inform the research process (Altrichter & Holly, 2005).

4.5 Data Analysis Methods

The interview transcripts were the main data source for analysis using the six-stage, inductive thematic analysis method outlined by Braun and Clarke (2006). In addition to the interviews, a narrative account of the implementation process was supplemented by information from the research diary. Finally, documents on the school website were useful in triangulating information provided by staff in their interviews.

4.5:1 Stage one: Familiarisation with the data and transcription

Following the transcription of the interviews, the text was read and re-read to identify patterns and themes. A pen-and-paper highlighting system was used at this point as the researcher found this to be beneficial in supporting thought processes around comments made which appeared as important to the research question. Interview transcripts were highlighted and then cut into sections so that these sections could be collected under headings which became the source of labels for coding in the next phase. The sorting of data in this way avoided the decontextualizing of data which can occur in using a computer program (Grbich, 2006).

4.5:2 Stage 2: Generation of Codes

The interview transcripts were then coded using Nvivo Pro data management software (QSR, 2012). This enabled the researcher to have a record of codes which could then be more easily categorised into overarching themes for the next stage of analysis. It also provided documents which could be easily compared to the coding of a second researcher, in order to check for inter-rater reliability of coding.

4.5:3 Stage 3: Searching for Themes

Codes were categorised under several group theme headings, using an iterative process so that the data was always linked to its situation in the original transcript and not taken out of context. At this stage, the coding was checked with a TEP colleague to make sure there was some reliability between the two. The research diary and field notes were

referred to by the researcher where this was helpful to give a broader context to the data.

4.5:4 Stage 4: Reviewing of Themes

Themes were then reviewed, taking into account the observations of the co-researcher and the overall narrative provided by the research diary.

4.5:5 Stage 5: Defining and Naming of Themes

Themes were re-named and defined more precisely at this stage to allow for coherence in the research report. Themes were checked against the original transcripts to ensure that uncoded data had not been erroneously overlooked and to ensure that prominence had been given to the right themes, even if these did not appear more often in the data (Grbich, 2012).

4.5:6 Stage 6: Producing the report

The report was written in a narrative style, taking into account the many references to the ethos of the school and its history, both in the interview transcripts and in the research diary and field notes.

5. Critique of Method

It is a problem with research that it is too easy to start by choosing a method of inquiry without first carefully considering the underlying epistemological framework (Salmon, 2003). The choice of critical realism enabled the researcher to consider that a case study would necessarily involve the study of structures and processes but that these would be shaped by the meaning given to them by those working within them (McEvoy, 2006). Qualitative methods can facilitate the understanding of complex concepts and relationships and are well suited to capture the complexity of a real-world situation, which would not be easily brought to light through response categories or numerical data.

To support the stance of critical realism, the current study adopts an exploratory case study design and a qualitative approach to data collection. This is in line with a narrative approach (Runswick-Cole, 2011) which accepts that meaning is co-constructed within social settings and that both the participants and the researcher contribute to the data that is produced. Both are actively involved in the selection of what is meaningful and relevant to the research and what is deemed to be important. The use of a semi-

structured interview style facilitated this by keeping some flexibility in the research process and allowing for the data to take a direction that may not have been anticipated. It also allowed for open reflection from the researcher and participants as to how their personal expression of meaning might fit into a broader and collective perspective. This would be considered an idiographic stance, allowing for the meeting of individual agency with the social context in which the individual operates (Clough & Nutbrown, 2002).

The researcher sought to match both style of dress and approach to the research to the style and ethos of the school, which could be described as relaxed rather than formal and welcoming rather than intimidating. The interviewees were interviewed in their place of work, as this was considered to be the most convenient arrangement for them as they were already on site. They were allowed time out from their classroom duties, in order to attend the interviews, which therefore did not take up their personal time. This was negotiated by the researcher and the lead teacher. All of this was important to them in terms of valuing the time that they were giving to the research. The researcher sought to build rapport with each participant and to put them at their ease but not to the extent of 'faking friendship' or using rapport inappropriately to illicit more information (Kvale & Brinkman, 2009). The researcher could therefore be described as an 'insider researcher' (Kvale & Brinkman, 2009), having a shared professional interest in the outcomes of the inquiry.

One of the problems with the collection of qualitative data is in the explanation of its collection and analysis in such a way as to enable its replication. The use of the Braun and Clark model (2006) supported the process of analysis. This was developed in response to a general feel that the description of the process of thematic analysis is sometimes left wanting, speaking of themes 'emerging' from the data or 'being discovered' (Braun and Clark, 2006), thus relegating the researcher to a passive role, merely uncovering phenomena that were there all along and thereby taking no responsibility for the selection and emphasis of themes to support a particular line of inquiry or interest. Whilst every effort has been made in the current research to be entirely objective in the selection of themes, by using inter-rater reliability checks and by 'bracketing off' (Finlay, 2006) as far as possible, the researcher's own experience and opinions, it is nevertheless accepted that the researcher remains very present in the

research and in the selection of and directing of ideas. It is important to remember that the selection of data to receive particular emphasis is down to the researcher's decision process alone. This was made clear in the discussions between the researcher and her TEP colleague during the joint coding exercise. Whilst the researcher sought to take a broad view of the data within a school context, the TEP colleague took a much closer look at the meaning being created by individual participants, giving a valuable insight into their personal constructs. The use of an initial paper-and -pen exercise in coding at stage one of the process, before the use of Nvivo, allowed the data to 'speak for itself initially before researcher-designed labels (were) over-imposed' (Grbich, 2012). An analysis that is driven by the on-screen tool being used may result in original meanings of words being obscured beneath dictionary definitions, with the researcher having to repeatedly return to the original text to work out which are relevant (Grbich, 2012)

The open-ended nature of a qualitative inquiry is more suited to a critical realist perspective, as there is opportunity for the meaning of social phenomena to be co-constructed between researcher and participant (McEvoy, 2006). The subtlety of meanings would be lost without the freedom to explore ideas collaboratively, helping to 'illuminate complex concepts and relationships that are unlikely to be captured by predetermined response categories or standardised quantitative measures' (McEvoy, 2006).

6. Time-Line and Time Budget

Date	Activity	Completed by
December 2017 – January 2018	Literature Review	20 th January 2018
January 2018	Write research proposal	26 th January 2018
30 th January 2018	Initial meeting with key stakeholders: research commissioners, researcher, research	30 th January 2018

	supervisor and representatives from the school. Request copies of policy documents for 6 th February.	
6th February 2018	Apply for ethical approval. Read school policy documents.	20 th February 2018
21st February 2018	Email information sheets, consent forms and research question to participants.	End February 2018
7th and 20th March 2018 (dates to be confirmed with school)	Conduct interviews with staff participants. Refreshments/treats for staff: £5 Audio recorder: loan from university Travel costs: £30	End of March 2018
28th and 29th March 2018	Transcribe interviews.	31 st March 2018
11th – 13th April 2018	Thematic analysis of data from interviews and policy documents.	20 th April 2018
17th April 2018	Contingency Day: complete any work needed in school/collection of policies.	20 th April 2018
2nd May and 4th May 2018	Write up of research	11 th May 2018
11th May 2018	Draft submission for feedback.	29 th May 2018
29th – 31st May 2018	Final write up of research including revisions.	4 th June 2018
4th June 2018	Submission of research	4 th June 2018

7. Operational Risk Analysis

Risk	Level of Risk	Contingency Plan
Problems recruiting the right number of participants	Low	The researcher will enlist the support of the key stakeholder (school lead on Growth Mindset) to assist with participant recruitment.

A convenient date for all interviews to take place is not available	Low	The researcher has chosen dates to suit the research days on the university calendar but these are flexible; the researcher is also free to meet with participants on most Fridays throughout the research period and also before or after school.
Participants wish to withdraw from the research	Low	Information will be provided to participants by emails at the outset and they will be reassured of the anonymising of any data generated. Five participants will be recruited, with a view to three interviews being analysed in full, in case any participants are unable to attend interviews due to illness or family emergencies.
Interviews fail to generate sufficient data to allow for the analysis of themes relating to the research question	Low	The researcher will plan interview questions carefully and pilot these informally with a TEP colleague to ensure that there is sufficient direction in the questions to yield data relating to the research aim.

8. Ethics

Approval for the research was sought from the University of Manchester Research Ethics Committee and this was gained on 6th March 2018 (Appendix 1). All participants were asked to complete a consent form (Appendix 3) with due regard to the Health and Care Professions Standards of Conduct, (HCPC, 2017) and the British Psychological Society's Code of Ethics and Conduct (BPS, 2015). There was a low risk that the participants would feel uncomfortable discussing issues related to growth mindset in their school as it does not touch on anything to do with personal issues and is viewed very positively within the school. Any risk would have related to the power aspects of discussing practice with a researcher, which may cause the participants to feel vulnerable. The information provided to participants at the outset explained the rationale for the research so that it was framed within a context of 'investigating what is happening' at this stage and not in any way evaluating individual teachers or their contribution. Participants were also made aware that the researcher does not live in the same Local Authority (LA) as the school

and would be employed in a different LA at the end of the current training course. It was made clear to staff participating in the research that all data collected would be anonymous and that there would be no link between the gathering of data for the research and any performance management protocols in school. Participants had the right to withdraw from the research at any stage and to have their data withdrawn from the study. If they did feel uncomfortable at any stage, they were advised to access the usual formal and informal sources of support available within school. They also had the reassurance that the research was being supervised by the researcher's tutor, who was also able to give support. The researcher offered debriefing opportunities for staff involved after the research.

9. Findings

Twenty-three initial codes were identified from the data and these are presented in a table in the Appendix (Nvivo Codebook, Appendix 5). The term 'codes' here refers to key segments of the text first identified when reading through the data for the first time. From these, three over-arching themes were named in order to structure the narrative account of the findings. The term 'themes' here refers to the overarching labels attached to groups and sub-groups of codes, that are conceptualised and linked more directly with the literature and theory (Grbich, 2006) to facilitate the description of findings. These are presented in the thematic map below (Figure 1), together with the subthemes that best illustrate the findings. Themes are represented as prominent because of their perceived importance to the initial research question and not because of the number of times they appeared as initial codes. Perceived importance was determined by how themes related back to the units of analysis outlined in table 2 above. The same themes were identified by the second researcher who scrutinised and coded a

short extract from one interview, further underlining their salience to the current inquiry.

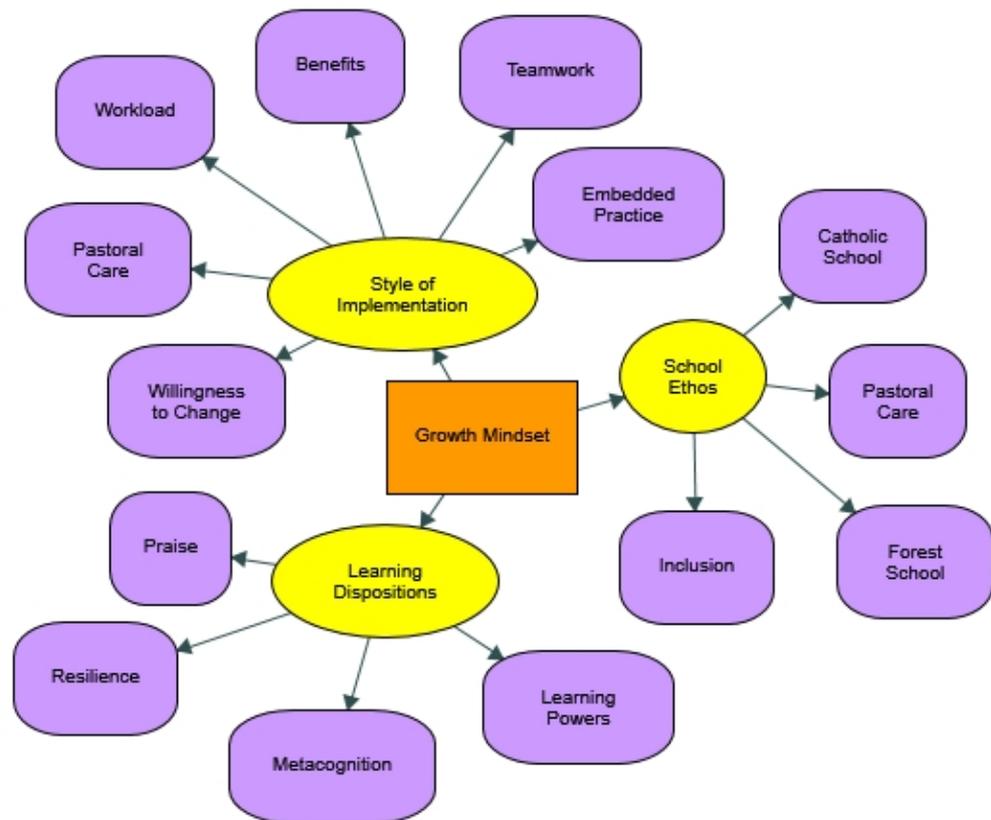


Figure 1: Thematic Map

The themes recurred across the three interviews and are therefore dealt with as a whole rather than presenting each interview in turn. This is partly due to the nature of the semi-structured interview, where the same initial questions were put to each participant.

However, it is noted by the researcher that each participant took the questions (which were deliberately open to allow for discussion) in a similar direction to the others.

The following chapter presents these themes, together with quotations from the interview transcripts and with reference to other documentation such as school policy documents.

9.1 Style of Implementation

The way that the Growth Mindset approach had been implemented in the school is a prominent theme across all three interviews. The need for change is prevalent in their responses as they talked about the school in recent history: “Children were expected to do as they were asked” and “Children knew what they needed to do in school

and... they... obliged!" (P1) The need for the school to develop a more pastoral concern for the children is evident:

You didn't have that pastoral care, that building your confidence, that giving each child ownership on their own thoughts, their own feelings, how to deal with things. And that's a massive shift. (P2)

The theme of school history was present here, with the sense that there had been "lots of changes" with one participant noting that several generations of the same family come through the school, including her own:

It was my mother's primary school, my son came here and my niece is now in a class next door to me, so we... I've grown up... (P2)

The need for change was a theme which relates to the initial pilot of a growth mindset approach, following an Ofsted report which stated that,

Pupils do not always learn as well as they should. This is because when pupils select tasks that are too easy for them, it sometimes goes unnoticed. (DfE, 2014)

The benefits of the Growth Mindset implementation was a theme across all the interviews. They saw the initial introduction as "staged" and a "pilot" which then developed across the whole school. It was perceived that the change was "managed", implying that it was managed successfully, and "done strategically and the framework is there" (P3). In addition, it was seen as something uncomplicated:

I think when the teachers realise actually this isn't rocket science, it's not hard... it is just a case of changing your vocabulary. (P3)

These views on the strategic introduction of the programme were corroborated by the lead teacher, who conducted the initial pilot in her own year 2 classroom. Notes from the lead teacher's report on the initial stage of the implementation of the approach cite Mongon and Chapman's framework for action (2013) and Boyatzis' Theory of Self Directed Learning (2002), confirming that the initial implementation process was grounded in psychological theory and evidence-based practice.

Motivation to try a new initiative was common to all the interviews: “We all welcome change and... that holistic approach to children as well” (P2). Every effort was made at the outset to listen to children’s views and to make the concept of Growth Mindset accessible to all, including the youngest children. Visual resources were developed with an outside agency, “to look friendly and look inviting” (P3) with input from the children at every stage.

The researcher had hypothesised that the introduction of a new approach to learning may have increased the workload and stress of the teachers and support staff in school and this theme was explored across the interviews, though the participants were unanimous in stating that the new approach had improved their work-life balance rather than the opposite. They did not believe that the Growth Mindset approach had increased the hours that they worked, rather, “it just gives you more food for thought when you’re doing, say, your planning or your lessons” (P2). Linked to this was the theme of teamwork and the sharing of the work: “A lot of them work in pairs, in tandem, so it halves the workload’ (P1). This was seen to have a beneficial effect on staff: “The staff seem less stressed... since the implementation of the learning powers” (P1). Also, “They seem less stressed... they cooperate a lot more with each other... it seems a lot more organised. They seem to be more of a team now than in the past” (P1).

The theme of embedded practice and a holistic approach to school life runs through the account given by each participant:

It’s just referred to all the time, in different cases. I can’t (be) specific or pick out one particular thing because it is just embedded, it’s just accepted. (P1)

Rather than seeing the Growth Mindset approach as something that is additional to the way that school operates, it is more an intrinsic quality of school life itself and part of the co-constructed model of what school should be. When asked how the programme is being managed by senior staff, participants struggled to see this as a separate item that could be monitored by itself:

It’s so embedded now, within the school, I don’t think it needs that much managing, it’s just... it’s referred to all the time, in assemblies, in lessons, in marking even... you know,

behaviour-wise, you know with the behaviour policy. We just embed it, embed it, embed it, embed it... you know, it's in our ethos, it's all around... it's just drip-fed constantly' (P1).

The school's behaviour policy does indeed make reference to the Learning Powers framework used in school (Appendix 9, pp. 3 – 5).

Participants continued this theme of the intrinsic nature of the approach in the different phrases they used to describe it as something that is always with the children, whatever they are doing. One used the term, “learning backpack” (P3) and another stated that, “learning is a toolkit... it's just trying to equip them for life” (P2). The embedded nature of the approach means that it is present in all aspects of school life and not just in the classroom. “Whereas before they may have had similar Growth Mindset sort of practices in one classroom, they're now getting it in every single area of their learning life” (P3). And later, “It underpins everything... It's like osmosis, you know, you just ... soak it in!” (P1)

Further evidence of this intrinsic nature is seen in the data where Growth Mindset can support the children with friendships: “They learn those skills to address those social situations that they find difficult, especially, you know, within the playground situation.” (P1)

It is clear that the approach provides support to the children beyond academic work, “Not just with school work, with everything... challenge themselves through sport and through other activities in school” (P2)

9.2 Learning Dispositions

The title theme for this section is based on the work of Claxton (Claxton & Carr, 2004) and this is the central theme in supporting the research question with data around ‘what’ is being described as Growth Mindset in this case study school. Whilst the intervention at the pilot stage was based very closely on the work of Dweck and related to Growth Mindset and to incremental or entity theories of intelligence, the participants were clear in their description of the approach now used in school as based upon a wider understanding of the learning dispositions that are complementary to learning, within

the framework set by the Growth Mindset agenda. The result is a list of 'Learning Powers' which are highly tailored to the school (Appendix 6).

Participants differed in the language they used with reference to the theme of learning dispositions. One participant used both Growth Mindset and Learning Powers within the same statement: "It's throughout the school, you can't turn around, it's all about Growth Mindset and about Learning Powers" (P2) and another, 'Learning Powers, yeah, based on Growth Mindset" (P1). Later, when asked directly which phrase was preferred, the participant stated, "We sort... we say Learning Powers, but we also say 'Oh, you've got'... you say 'You've got to have a growth mindset'" (P3). One participant reported, "I like the word 'power' because it's like 'super-hero'" (P3). There is a sense that the children have ownership of their Learning Powers and see them as something within themselves and not something that has been imposed upon them by the structure or requirements of the school. They are identified as beneficial, the 'toolkit' referred to in the previous section. Examples are referred to in the interviews; one is 'stay curious' such as, "Be curious, stay curious, if you want to find out something more, yes, you'll get time, you can stay in and look it up... on the computer" (P2) Later, another, 'be resilient', is described as "if a child was working really hard, they were given a... their Learning Power was resilience or if they had to make it better or challenge themselves or to keep improving" (P2).

The theme of challenge is prevalent through the references to Learning Powers, especially in relation to the 'be resilient' Learning Power. It is interesting to note that many examples of learning using this part of the 'toolkit' relate to skills outside of the classroom: "You need to practise speaking to people, practise making friends... it's the hardest thing to go up and ask somebody 'can I play?' you know, but you have to keep trying it. And you know, it does work, it does work" (P1). And later, "I know how difficult it was for you when you... when we started this journey, I know how difficult it was... you've shown resilience and you've made some friends..." (P1).

Within the theme of challenge is the recognition that confidence in using new skills does not always come easily to children, especially in relation to social skills: "It's really basic stuff for adults but for children, it's a big issue" (P1)

Resilience is described by the participants in terms that children can readily understand and in a way that confirms the idea of this being a feature of every area of school life and not just what happens in the classroom in relation to academic progress.:

The children can see it's not just in the way that they act or in... it's what they do... so... you know, sticking at something in their work and writing it and if they're getting muddled, trying it again then that's resilience.. it's they're sort of seeing that they're... demonstrating it in lots of different contexts, rather than just their work (P2).

Metacognition is an important theme in relation to learning dispositions. It is the children's awareness of their Learning Powers and the way that this is framed for them within the vocabulary of the school approach, that enables them to reflect on their learning and move forward with confidence.

Participants refer to the way that children "can identify the skills they're using to promote their learning" (P3) and the way that they will refer directly to their learning in a way that is quite natural for them: "Look, look what I did! I kept trying, I didn't give up Miss, I've challenged myself" (P2). Sometimes this awareness comes through the prompting of adults: "We'll go back and look at their work, I'll physically show them, 'you couldn't even do this at the start'" (P2). In this way the children are seen to become more aware of the learning journey they are on. The participants themselves use metacognition as they examine their own responses to the Learning Powers: "At first I thought... maybe I'm a bit fixed (mindset) and I've not realised!" (P2).

Wellbeing was an important theme across all of the interviews. The theme of resilience is related to this and has been discussed above but there are more direct references to the importance of wellbeing across the school, with one participant describing herself as "passionate about wellbeing" (P2). The language used around Growth Mindset and Learning Powers in the school is seen as conducive to supporting the children: "It's just the language you use and it's to give them the confidence and I think it does really make... for me personally in makes me think about... how I approach the children and what maybe they're thinking" (P2). One participant described a situation where, because of the background of dialogue around Growth Mindset and learning dispositions, she would think differently about a situation where previously she may have dismissed a

child as not trying hard enough, “rather than just a lot of ... ‘he just doesn’t care, he’s not trying that...’ it’s not that is it? It’s why or what’s going on? What are they thinking? What’s their barrier?... What’s their lack of confidence?” (P2)

The theme of praise emerged through questions around this topic. Process praise is a feature of the Growth Mindset approach and this was prominent in the participants’ responses. Praise is described as “specific” such as “ I like the way that you are creative” (P2) and this is different from the praise that was used before the approach was implemented, with previous praise being along the lines of “well done, but well done for what?” (P2). Although it was acknowledged that this was not “meant in a bad way” (P2), the participant making this comparison also noted “it probably wasn’t constructive, it wasn’t directive... you know, it’s not actually meaningful but now it... You know, it’s pinpointed” (P2). The role of praise in encouraging metacognition is also a theme here, “praising them so they make their own connections as well” (P2). Another important aspect of praise is that it allows for mistakes: “You learn by your mistakes... it’s not bad to make a mistake, that’s how we learn... Fail is the first attempt in learning... you have to fail to improve” (P1).

The emphasis on process praise in school practice is clear in the Home Learning Policy (Appendix 8) which is sent out to all parents. Through the policy, parents are encouraged to:

Provide specific praise that focuses on a particular aspect of their work. Comments such as “I like the way you have...” is more effective than “you’re clever”.

9.3 School Ethos

The ethos of the school is a highly prominent theme for all three participants. The Catholic background to the school is seen as an effective factor in providing cohesion and a sense of history to the school, making it feel more like a family or community: “We’re going to make sure everything links back to... we’re a Catholic school and our mission statement is ‘love one another as I have loved you’... everything comes back to that, so it all fits in with what we’re about” (P1) Indeed the Learning Powers framework adopted by the school is directly related to the Catholic faith, with Bible links to each of the

Learning Powers listed: “We base our Learning Powers on... the... scripture readings as well... because we’re a Catholic school” (P1).

Pastoral care of the children is seen as a strength:

I know education is important, which it is.. but to me, that pastoral, that wellbeing... is... that’s paramount, that’s the most important thing I think and I think that’s something we focus on really, really well here. That every child is unique, every child... has got a special talent or... you know, something special about them (P2).

Another theme linked to school ethos is that of the Forest School programme, seen as very closely aligned with the Learning Powers approach. Indeed the branding of the Learning Powers was commissioned in a style to fit in with the Forest School theme:

“The branding was deliberately linked to the Forest School, yeah, the outdoor learning... and nature... it pulled in our strengths” (P3).

‘Inclusion for all’ is a prominent theme and a strong feature of the school ethos. The participants considered that the school has a mixed intake, with many children from “disadvantaged backgrounds” (P3), together with a recognition that the “social and emotional challenges” (P1) for these children are considerable, that they may “need that motivation... because they may not be hearing that sort of dialogue at home” (P3). There is recognition across the data that the Growth Mindset approach is “removing barriers in terms of confidence building” (P3). It was considered that they would be “better equipped and they’re more resilient” (P2). Inclusion of all in the classroom is also a theme that emerges here, so that even children with a special educational need can access learning in the classroom because the Growth Mindset approach means that “They’re all going at their own pace, but they’re accessing it in the same way... their needs are catered for in the class” (P3). Elsewhere it is seen as “a vehicle for including everybody” (P3). This has had the benefit that interventions outside the classroom are not as needed:

We’re seeing that actually the children, the way that they’re learning... it’s more accessible in the class and the teachers... the class are not galloping on ahead because you’ve got mastery happening. (P2)

The idea of mastery of skills rather than a race to finish is central to Dweck's description of Growth Mindset processing.

The participants accepted that there are still "vulnerable learners" in school but that they feel confident that they have "the support structures in place for them". The "constant praise, the constant reassurance... building up the self-esteem... through the Learning Powers obviously has a fantastic effect on them" (P2).

The caring nature of the school ethos is reflected in its Behaviour Policy:

We help children understand that, whilst we may sometimes disapprove of their behaviour, they, as individuals, are still valued and loved. (Appendix 8)

The theme of resilience has already been noted and here, there is a sense that the Growth Mindset approach used by the school is promoting both emotional resilience and providing a protective factor so that fewer children are needing a high level of emotional support outside of the classroom.

as the children have come through there are less and less and less with emotional difficulties emotional problems... I don't know whether it's because of learning powers... but I know that it does have an effect... it will have had an effect on them... on their self-esteem (P1)

This supports a reference in the school Behaviour Policy, where one of the aspects specifically taught to the children is to 'Be positive and resilient when they are challenged to improve their learning and behaviour' (Appendix 8).

10. Discussion

This chapter describes the main findings of the research in relation to the research question and current literature, with comment on the implications for current practice in educational psychology.

This research constitutes an exploratory case study of a Growth Mindset intervention in a UK primary school. Three overarching themes were identified from the data; these are style of implementation, learning dispositions and school ethos. The participants construction of meaning (Kelly, 1986) within these themes was congruent with the literature that speaks of positive outcomes where a Growth Mindset approach to learning is adopted (Dweck, 2000; Seaton, 2018). The themes also describe a narrative where the intervention is so embedded in school practice and the school's ethos that it ceases to be an addition to the school's provision but is rather a framework within which the provision takes place. This is quite different from the short-term, taught interventions described in much of the literature (Farrington et al, 2012; Hochanadel & Finamore, 2015)

As with all new initiatives and innovations in schools, the key to success is often in the nature of the implementation process (Lendrum & Humphreys, 2012). The researcher was not present during the initial stages of the implementation of the current Growth Mindset approach and so the details of the implementation process were gained from the interviews with participants and through conversations with the lead teacher.

Staff perceptions of the whole-school, embedded approach to Growth Mindset are overwhelmingly positive. There are a number of features of the approach which contribute to this favourable impression and these can be mapped onto the features of an innovation identified by Greenhalgh et al(2004) as part of the model of implementation (2004). In this section, the features of the Growth Mindset approach will be mapped onto the Greenhalgh model. There then follows a description of some of the themes that were identified as important from the data and how these might contribute to our understanding of learning dispositions in a way that can be presented to other schools for their benefit.

The following attributes were identified as important for an innovation to be willingly accepted by stakeholders (Greenhalgh et al, 2004).

1. **Relative Advantage:** This is the extent to which stakeholders can easily perceive the merits of taking on the new approach in terms of advantage to themselves and the students. The idea that those implementing an innovation should be convinced of its effectiveness is supported elsewhere in the literature (e.g. Woodbridge et al, 2014). This was clear from the outset of the research, with all participants perceiving the good that would ensue for both themselves, in terms of organisation of workload and for the children, in terms of better educational outcomes. In addition, the time taken by the lead teacher to properly investigate both the approach and the theory around change management (e.g. Mongon & Chapman, 2013) and to build good relationships with the staff team (Boyatzis, 2002) meant that the project had the best possible chance of success.
2. **Compatibility:** this relates to the way in which the innovation matches with key stakeholders' existing value system and priorities for progress. The caring and inclusive ethos of the school in this case study was a good match for the Growth Mindset approach and for believing that every child can succeed with persistence and effort.
3. **Complexity:** It is noted that innovations which are seen as straight forward are more likely to be adopted by all stakeholders. This was confirmed in the case study school, where all participants viewed the approach as something that meshed with existing policy and practice, something that would be a part of what was already happening and not just added on.
4. **Trialability:** the fact that the lead teacher had conducted a pilot introduction of the approach with one class group meant that at an early stage she was able to shape the intervention in a way that was relevant both to her class of pupils and to the wider school culture.
5. **Observability:** The lead teacher would have been able to demonstrate the effectiveness of the Growth Mindset approach. This information is not explicit in the data but a follow-up study could focus more on the children at the centre of this pilot study and the effect they had on the school.

6. Reinvention: Greenhalgh states (2004) that, 'If potential adopters can adapt, refine or otherwise modify the innovation to suit their own needs, it will be adopted more easily'. This would explain why the rebranding of Growth Mindset as 'Learning Powers' with cartoon-style creatures to capture the imagination of even the youngest children, has been so successful. In addition, the new branding of the approach has allowed for links to scriptural quotes to suit the Catholic background of the school and its strong, faith-based ethos. The use of Learning Powers as the school's headline for the approach is an adaptation of the work of Claxton (e.g. Claxton & Carr, 2004), who described a number of learning dispositions as beneficial to the learning process. There is evidence elsewhere that adaptations of an intervention can be beneficial:

Local changes are inevitable and surface-level adaptations may contribute to the effectiveness and sustainability of an intervention. (Lendrum & Humphrey, 2012,).

- There is concern that too much adaptation can result in a loss of fidelity of the intervention (Lendrum, 2010, Lendrum & Humphrey, 2012) but it is less clear what constitutes 'too much'. The data in this study would suggest that as identified by Greenhalgh et al (2004), the reinvention of the intervention has added to its sustainability.
7. Fuzzy Boundaries: The nature of the Growth Mindset approach used at St. Mary's fits the description of having 'fuzzy boundaries', in that it encompasses all aspects of school life and has the additional strength that it is an approach to learning as such, which invites pupils to embrace learning in new and interesting ways. It is a vehicle for learning to stay fresh and exciting and can therefore work in and alongside other school initiatives for maths or wellbeing. This is in contrast to other examples where an intervention was delivered separately to a group of students, without other staff being aware of any change in approach being required in other lessons (Rienzo et al, 2015; Hochanadel & Finamore, 2015)
 8. Task Issues: The participants were asked specifically about workload and all responded that they did not feel that the Growth Mindset approach added to the work they did but rather made it more streamlined and organised. This is another feature of innovations that Greenhalgh and colleagues (2004) found to be beneficial.

9. Knowledge required to use it: it was clear that staff felt empowered to use a Growth Mindset approach in their teaching and pastoral work and that staff training had been helpful and appropriate. All participants were confident in both their background knowledge of the concept of Growth Mindset and their ability to adopt this in the classroom and in school life more generally, with participants also showing a level of metacognition around their own learning process in relation to mindsets. This is similar to the study by Lambert (2016), where all staff were trained in the approach and collectively adopted this as a good way forward for the school. An added strength in the present case study is that parents were kept fully informed of the language and approach being used in school and were encouraged to mirror this in their response to their children's effort (Home Study Policy, Appendix 7)
10. Augmentation/ Support: Staff responded in different ways to questions around the management of the approach. Whilst there was reference to book trawls and top-up staff training, there was a collectively held belief that staff were being supported in their teaching, that resources such as stickers and posters were widely available and that every aspect of school life, including behaviour policy and school assemblies, would support their own approach. Greenhalgh (2004) states that: 'It is the interaction among the innovation, the intended adopter(s) and a particular context that determines the adoption rate'. The use of a Growth Mindset approach is not static, but is rather an ongoing process of negotiation of meaning and creative reinvention over time to suit the particular context of one school.

These features of the innovation fit into the wider model proposed by Greenhalgh et al (2004). Other aspects of the model could be considered in a future study but it was the staff descriptions of the innovation itself and their perceptions of it that was the main idea emerging from the current data.

11. Implications for Educational Psychology Practice

The researcher believes that this short, pilot study reveals something of the complexity of a successful vehicle for motivation of pupils within a mainstream school. There is

sufficient evidence for the benefits of adopting a growth mindset (e.g. Dweck, 2017, Boaler, 2013) for educational psychologists to encourage colleagues in schools to foster this approach. The inclusive nature of the approach used at the case study school has meant that 'Quality First Teaching' is now sufficient to meet the needs of the majority of their pupils. The subtle change from praising intelligence – 'You are clever' – to process praise – 'You worked hard' – and the real tools that are provided to encourage children to try again and not give up if work becomes effortful all contribute to an environment where psychology is being actively used to support children in the classroom. The strength of the intervention described here is a whole-school, embedded approach. It could be appropriate to recommend an emphasis on process praise and growth mindset coaching for pupils who are referred to psychology services if they have become disaffected or demotivated in the school system, though this should be with caution, given that such an approach is unlikely to be effective unless adopted consistently across the whole school.

12. Limitations of the Research and Future Research Possibilities

The present research is an exploratory case study of staff perceptions in just one school. A single case study is a valid method for the in-depth study of a phenomenon in its situated context and therefore has ecological validity through its real-world setting (Yin, 2014). However, this study would benefit from being viewed alongside the views and perceptions of the children in the same primary school, since their voice is missing from the current discussion.

The questions given to participants guided much of the content of the study. Semi-structured interviews are good because they facilitate a flexible approach and the co-construction of meaning between researcher and participant (Runswick-Cole, 2011). There were inevitably some omissions from the data which could become research questions for future work. A good way to ensure that all pertinent themes are covered in interviews would be to start a follow-up study with a focus group discussion, with the resulting data being analysed for themes to take forward in the research. This would be especially useful if the focus group were to include pupils at the school, since they could then be shaping the direction of the research at the outset.

Whilst the research shows that process praise and a focus on process rather than end result is paramount in giving children the intrinsic motivation required for the learning process, it is of concern to the researcher and the research commissioners that the action of testing pupils could have a detrimental effect on their ability to enjoy 'process' rather than 'product' (Fraser, 2018). The current government expects that children in England will be tested within the national framework known as 'SATs' – Standard Assessment Tests – at the end of primary school. Research has shown that testing in this way may encourage students to focus on getting the right answers rather than exploring and enjoying the learning that occurs on the way (Boaler, 2013). It may 'Undermine teaching that promotes mistake-making' (Fraser, 2018). Future research could explore pupil opinions on the Growth Mindset approach within the context of working towards the SATs tests in May of year six.

13. References

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