Harnessing parent power: to what extent can parental engagement enhance the development of growth mindset in secondary school children?

Alex Battison

A Research & Development Project
Submitted for the
MSc Learning & Teaching 2016

DEPOSIT AND CONSULTATION OF THESIS

One copy of your dissertation will be deposited in the Department of Education Library via the WebLearn site where it is intended to be available for consultation by all Library users. In order to facilitate this, the following form should be completed which will be inserted in the library copy your dissertation.

Note that some graphs/tables may be removed in order to comply with copyright restrictions.

Surname	Battison
First Name	Alex
Faculty Board	Department of Education
Title of Dissertation	Harnessing parent power: to what extent can parental engagement enhance the development of growth mindset in secondary school children?

Declaration by the candidate as author of the dissertation

1. I understand that I am the owner of this dissertation and that the copyright rests with me unless I specifically transfer it to another person.

2. I understand that the Department requires that I shall deposit a copy of my dissertation in the Department of Education Library via the WebLearn site where it shall be available for consultation, and that reproductions of it may be made for other Libraries so that it can be available to those who to consult it elsewhere. I understand that the Library, before allowing my dissertation to be consulted either in the original or in reproduced form, will require each person wishing to consult it to sign a declaration that he or she recognises that the copyright of this thesis belongs to me. I permit limited copying of my dissertation by individuals (no more than 5% or one chapter) for personal research use. No quotation from it and no information derived from it may be published without my prior written consent and I undertake to supply a current address to the Library so this consent can be sought.

3. I agree that my dissertation shall be available for consultation in accordance with paragraph 2 above.

Abstract

This study has focussed on how parental engagement can be used as an intervention to develop a growth mindset in young adolescent boys.

The research frame has been a case study approach designed to gather data that is rich enough to analyse a mediated act as complex as parenting. Therefore, the methods have been mixed and varied to enable thorough triangulation and have included semi-structured interviews, questionnaires, diaries, informal observation, drawing and pictures. The intervention period itself lasted six months.

The context is set within a co-educational, fee paying, independent boarding school which is non-selective and provides bursarial assistance to those from lower socio-economic backgrounds; four local day boys in year 9 were randomly selected from a targeted group as the case study students.

Many schools involve parents via emails and newsletters, reports and parents' evenings, all of which serve to relay information in a useful and important way. However, in a complex and ever changing world I propose that schools must get more creative to strengthen the learning culture around each child. Parental participation in schools, particularly parental engagement (where parents are empowered to further develop their child's learning dispositions at home) can have huge effects on that child's lifetime achievement.

All students developed a more incremental mindset as a result of the parental intervention albeit to varying degrees. The main factors that influenced the degree of progress were upheaval within the family unit and how the strategies we employed by the parents. Unsurprisingly, I found that parents experience responsible parenting to be challenging, and that they were very grateful for support and guidance. Providing autonomy was found to be an important factor in successful strategies with the young adolescents, as was working in a careful manner via questioning, using process oriented praise and collaborative,

learning-orientated, goal setting; all of which were best deployed in a light-touch manner.

The project sat within a whole school initiative to engage pupils, teachers and parents in strategies to develop learner self-sufficiency, as part of a collective culture, within a community of learning. The process and reflections of all involved within this project will help to develop our continued focus on a wholeness approach and continue to dissolve the boundaries between the silos of traditional educational practice and perceived responsibility.

Table of contents

Abstract……3

Introduction..……...……...……6

Literature Review
- An introduction to motivation……...……...…….……....9
- A journey through motivational history……11
- Ability Theory's links to wider cognitive psychology……..……18
- The role of parents in their child's learning……...…..……....20

Methodology
- Design……...……...……...……...24
- Participants……...……...……...……...25
- Ethics……...……...……...……...26
- Data gathering……...……...……...……...29
- The implementation of the intervention……...……...……...34

Findings and Discussion……...35
- Myself as a learner…...…...……...……...……...36
- View of school……...……...……..45
- Challenge……...……...……...……...……50
- Failure, risk taking and mistakes……...……...……..……...53
- Feedback and critique...……...……..…...57
- Perseverance……...……..……..58
- Growth mindset questionnaire results……..……..……....60
- Perceived reasons for any changes in mindset…...……...60
- What proved most effective during the intervention……..62

Conclusion……..64
- To what extent does parental engagement impact upon growth mindset and academic behaviours within the context of my investigation……....65
- Guidelines which may be useful for an educational community looking to develop more conscious parenting in relation to growth mindset……...67

Evaluation……...69

References……72

Appendix 1……..94
Appendix 2……..98
Appendix 3……..99
Appendix 4……100
Appendix 5……103

Introduction

My current school, a 3-18, co-educational independent boarding school has been parents thoroughly for some time. However, I wanted to investigate how we could better parents and the effect this would have on the child, specifically on their growth mindset (Dweck, 2006). My language use here is deliberate and I agree with Lucas (2010: 3) when he states that 'engagement' refers to 'a more active personal level of participation in learning in the home than parental involvement which is often associated with school generated requirements'. I believe that this change in language 'represents a shift in emphasis, away from the relationship between parents and schools, to a focus on the relationship between parents and their children's learning' (Goodhall and Montgomery, 2014: 4).

'In the last few decades there has been a growing recognition across the world of the importance of engaging parents' (Lucas, 2010: 2). A relatively new area of educational research - around 30 years - parental involvement and engagement in educational practice has seen increasing focus with programmes such as No Child Left Behind (2001), Every Child Matters (2003), Engaging Parents in Raising Achievement (Harris and Goodhall, 2007) and Families And Schools Together (McDonald et al., 1997). I am very interested in broadening the view of parenting as involving an aspect that could be termed being 'a learning coach' and, using a sociocultural perspective (Vygotsky, 1978), be more holistic in our appreciation for, and approach to, educational provision.

My choice of reading within this review has been influenced by my interest in how and why a student may behave differently to another when faced with the same situation. As part of this interest I have been led to the idea of 'meaning systems' or 'self theories' (Dweck, 2000), of which Mindset Theory is one. These discuss the concept of individuals developing 'beliefs that organize their world and give meaning to their experiences' (Dweck, 2000: xi). This idea that individuals can affect and shape their beliefs is important to my own philosophy for education in

which I see it as vital to empower self-sufficient learners, fit for the challenges and uncertainties of the changing world they live in.

Individuals are also situated within a community and so I have found viewing my context from the perspective of sociocultural theory (Vygotsky, 1978) particularly relevant. From this perspective learning is a socially mediated process where individuals create meaning derived from the collaborative construction and personal interpretation of cultural values. As a result, I believe that investigating how individuals are influenced by others, as well as being able to influence their own psychological worlds, is of some significance.

Fuelled by a belief that schools and parents can work together more effectively for the sake of the child I aimed to investigate the extent to which parents affected motivation, specifically the growth mindset, of young adolescents within this context.

Research shows that the foci of my investigation, motivation and parental engagement, are important aspects of effective learning in their own right. Motivation is widely considered to be a key factor to successful learning (Perumal, 2009; Hattie, 2009, Galloway et al., 1998, Schunk and Zimmerman, 2008; Engestrom, 2009; Hattie, 2009; Schunk et al., 2014) while parental engagement 'can significantly affect and alter the life chances of young people [and can cause] a substantial and positive impact upon achievement' (Harris et al., 2009: xi). Indeed, parental engagement has been deemed the most important aspect of any successful educational community (Harris and Goodhall, 2007; Harris et al., 2009).

However, most work on the role of parental engagement has taken place within the context of students from low socio-economic backgrounds (Desforges and Abouchaar, 2003) and within junior or pre-school environments (Bus et al, 1995; Jeynes, 2005). Overall, evidence for the effect of parental engagement is 'predominantly from primary level and the early years' and, if in relation to

secondary level, the 'focus is on reading and mathematics attainment' (Education Endowment Foundation, 2015).

If senior schools have been involved in parental engagement they have mostly been maintained schools (Jeynes, 2007) and the focus has been on academic achievement including literacy (Jeynes, 2005; Fan and Chen, 2001; Van-Steensel et al., 2011) or on students with special educational needs (Barlow and Humphrey, 2012; Cramm and Nieboer, 2012; Peacey et al., 2009). As Goodhall and Vorhaus (2011) summarise 'there are numerous gaps in the evidence base' much of which 'is weak, or based on poor quality research' (p.9).

Parental engagement programmes have been found to positively impact student motivation towards a variety of activities (Goodhall and Vorhaus, 2011; Hoover-Dempsey and Sandler, 1995). However, I have been unable to find conclusive research on the effect of parental engagement in relation to a child's growth mindset, both within the context of a British independent school, and in any other setting.

As a result of this initial foray into the field I set out to answer two main research questions within my literature review:

1. What is the difference between growth mindset and other motivational theories?
2. What role do parents play in a child's learning?

Literature Review

An introduction to motivation

Educational psychology has been extensively investigated throughout the history of educational research and is viewed by many as being key to the process of learning and achievement. Engeström argues that any theory of learning should comprise four aspects, one of which is: 'Why do they learn? What makes them make the effort?' (2009: 53).

Motivation itself, a key aspect of educational psychology, 'refers to the process whereby goal-directed activities are energized, directed, and sustained' (Schunk, et al., 2008: 10) and 'can influence what we learn, how, and when we learn it' (Schunk and Zimmerman, 2008, p.250). Motivation can be defined as 'the process whereby goal-directed activities are instigated and sustained' (Schunk et al., 2014: 5) and can be thought of as 'the study of the determinants of thought and action - it addresses why behaviour is initiated, persists, and stops, as well as what choices are made' (Weiner, 1992: 17).

Motivation varies in 'not only the of motivation (i.e., how much motivation), but also the of that motivation (i.e., what type of motivation)...the why of actions' (Ryan and Deci, 2000: 54). Not only does 'Motivation influence learning and performance' (Schunk et al., 2014: 6) but 'the value and durability of the learning result is closely related to the incentive dimension of the learning process' (Illeris, 2007: 12).

There are also different types of motivation - namely, intrinsic and extrinsic. Being intrinsically motivated means that there is inherent enjoyment or that the task is of significant personal value; it is based on 'the human need to be competent and self-determining in relation to the environment' (Deci, 1980: 27). Extrinsic motivation is deemed to produce a motive deriving from external sources, for

example a student working hard because their parents have promised them money if they do so.

Someone may not be motivated at all and this is termed 'amotivation', a state whereby an individual is 'lacking an intention to act' (Ryan and Deci, 2000: 61). In different situations there may be extrinsic and intrinsic motives at play and it is generally thought that 'Intrinsic motivation results in high[er] quality learning and creativity' (Ryan and Deci, 2000: 55) while 'extrinsic motivation...tends to be destructive in advancing creative and higher order thinking' (Pink, 2009: 46).

De Charms (1968) work on personal causation focussed on the concept of 'origins' and 'pawns', 'the degree to which children perceive the classroom environment as one where they can be "origins" (i.e. active, responsible), versus "pawns" (i.e. passive, reactive)' (Ryan and Grolnick, 1986). He suggested that 'people strive to be causal agents and that a primary aim is to bring change to their environment' (Schunk et al., 2014: 285). In many ways De Charms' (1968) concept of an 'origin' or 'pawn' is similar to Rotter's (1966) concept of 'internal' or 'external' as they both seek to explain motivational cause and effect; however, they are also different. Rotter's (1966) theory is focussed on the degree to which an individual perceives themselves as a causal agent in relation to the receipt of reward. On the other hand, De Charms' (1968) work does not focus on reward; the theory is slightly less behaviourist in its approach and is concerned with the extent to which an individual perceives themselves as determining outcomes within their own environment.

When individuals have the view that they are autonomous and have responsibility for life events, a link has been found to increased academic achievement via increased motivation (Hattie, 2011). This perspective aligns with that of Phares, (1976), White (1959) and Miner (2006); the latter stating that 'when freedom is high, motivation will readily appear in productivity levels' (p. 97). Based on personal experience within the classroom this is something that I would agree with. An autonomous environment where children can be "origins" has led to improved

self-esteem, intrinsic motivation, self-worth and perceived competence (Deci et al., 1981; Harter, 1981), as well as a drop in student absenteeism, tardiness and an increase in teacher motivation (De Charms, 1976, 1984).

Following a narrative that looks to establish how and where motivation originates, many theories seem to suggest that motivation develops from either the individual themselves or as a result of the environment acting upon the individual in the role of an origin or pawn (De Charms, 1968; Newman, 2000; Renninger, 2006; Hedgegaard, 2012). As a result I will use this narrative throughout my review before moving towards a more contemporary concept of motivation.

A journey through motivational theory:

The humanistic theory of motivation conceptualises 'the dynamic aspects of human conduct as coming from the person' (Hedegaard, 2012: 13) and aligns closely with the view of individuals as 'origins' (De Charms, 1968). Humanistic theorists believe that individuals have choices and seek control in their lives via their own voluntary actions, contradicting the views of behaviourism (Pavlov, 1927; Skinner, 1953), and those theories connected to instinct and powerful inner forces within each individual (Freud, 1966).

As an example of a humanistic perspective, Maslow's Hierarchy of Needs (1968) was a theory that sought to explain motivation through a desire to satisfy the concept of self via a pursuit of needs in a hierarchical fashion; in this way the theory follows an internal, origin, perspective (De Charms, 1968) with humanistic roots. In a school context individual's needs can range from basic physiological requirements such as hunger and thirst, to safety and friendships.

Hull's drive theory (1943) was built on the belief that 'drives are internal forces that seek to maintain homeostasis, or the optimal states of bodily mechanisms' (Schunk et al., 2008: 27). Also known as 'systematic behaviour theory', Hull (1943) believed behaviour to be a function of motivation, when motivation is 'the initiation of

learned, or habitual, patterns of movement or behaviour' (p.226). The concept of drive is associated with habit, itself caused by connecting stimulus to response via social reinforcement (Hull, 1943). It is also concerned with the desire to achieve a basic need, such as the quenching of thirst.

Due to beliefs that introspective views of the individual were unreliable and difficult to measure, behaviourist theories arose from the research (Thorndike 1913; Pavlov, 1927; Skinner 1953). Forces for action were believed to be 'societal demands that persons in a given society gradually internalise' Hedgegaard (2012: 14). Such behaviour theorists suggest that 'people are motivated by environmental events' (Schunk et al., 2014: 21). The central tenet was that motivation could be observed through individuals' behaviour 'via stimulus-response pairs and selective reinforcement' (Wenger, 2009: 216) and that 'all motivation arises from basic drives, instincts or emotions in ways that are predictable' when triggered by environmental stimuli (Galloway et al., 2004: 92).

Behaviourist theories are grounded firmly in the belief that individuals are 'pawns' (De Charms, 1968); Classical Conditioning (Pavlov, 1927) was one such theory. In a now famous experiment using dogs, Pavlov used the ringing of a bell as a stimulus that food was going to be provided. Over time the dogs associated the sound of the bell with food and, even when food wasn't presented to them, whenever the bell rang the dogs would salivate. The theory states that 'learned responses are driven by the presentation of stimuli' (Lineros and Hinojosa, 2012: 2).

Although this theory can prove useful in classroom settings and the home environment, by associating learning with pleasure, behaviourist theories do not take into account the cognitive view and are therefore limited in their view of motivation. Furthermore, studies by Rescorla (1987) have found no evidence that conditioning is automatic, a viewpoint summarised by Brewer (1974), when he stated that there has 'never has been any convincing evidence for unconscious, automatic mechanisms in the conditioning of adult human beings' (p.27).

Operant Conditioning (Skinner, 1953) is another behaviourist theory but differs slightly from Classic Conditioning as it 'maintains that all behaviours are [instead] motivated by rewards' (Skinner, 1953: 57). Indeed, 'an antecedent stimulus sets the occasion for a behaviour (response) to be performed, which is followed by a consequence' (Schunk et al., 2008: 23). In this way reward and punishment act as positive and negative reinforcers and can guide innate behaviours and shape repeated action.

As well as discounting the cognitive view of motivation, Operant Conditioning is also disputed by the theory of Latent Learning (Tolman and Honzik, 1930). Following several experiments with rats in a maze, their studies found that learning can still take place without reinforcement. Furthermore, students will avoid activities where there is likelihood of being punished (Bandura, 1986), suggesting that an individual's personal beliefs may well override the supposed automatic effects of reinforcement, something that supports the humanistic tradition and the individual as an 'origin' (De Charms, 1968).

Connectionism (Thorndike, 1913), another behaviourist theory, 'contended that learning involves the formation of associations...between sensory experiences...and neural impulses that manifest themselves in behaviours' (Schunk et al., 2008: 21). For Thorndike learning occurs gradually through trial and error. From a problematic situation learners attempt strategies and employ those that are successfully used in completion of a goal. As with other theories of this ilk, connectionism ignores cognitive perspectives, although, the benefit of all of these behaviourist theories is that motivation becomes easier to measure through observable action.

Motivational research has shifted in the past 10-15 years. In a stance very different to viewing motivation as solely within the individual, or as only directly from environmental influences (De Charms, 1968), a more holistic and interactionist approach can be seen to rise out of the research: a dialectic between the cognitive and behavioural standpoints. Research has focussed on 'how children construe the

situation, interpret events in the situation, and process information about the situation' (Dweck 1986: 1041). This third categorisation of motivational perspectives concerns 'how the person-environment dynamic integrates into forces giving rise to human activity' (Hedgegaard, 2012: 15).

Key to understanding this is that learning as a concept cannot be understood without 'all the psychological, biological and social conditions which are involved' (Illeris, 2004: 8). This dynamic setting of the person within a context highlights the fact that 'we are social beings', a 'fact that is a central aspect of learning' (Wenger, 2009: 210). It is also core to the sociocultural perspective (Vygotsky, 1978) where individuals are seen to be 'active participants in the practices of social communities and constructing identities in relation to these communities' (Wenger, 2009: 210).

Expectancy Learning (Tolman et al., 1932) signalled a change from the mechanistic behavioural standpoint (Thorndike, 1913; Pavlov, 1927; Skinner, 1953) towards something more purposive viewing 'environmental stimuli [as] means to goal attainment' (Schunk et al., 2008: 29); therefore our journey begins towards a more interactionist view of motivation.

Expectancy Learning Theory suggests that 'people develop the belief that a certain response to a given stimulus will produce a result' (Schunk et al., 2008: 29). Experiences inform individuals about the potential of acting in a particular way and actions are made through consultation with cognitive maps that relate to an expectancy of what actions are required to achieve one's goals. Even though this theory starts to move further away from behaviourism, it is still too simplistic a view for a subject as complex as motivation. As a result, Expectancy-Value Theories (McCelland, 1961; Atkinson, 1964; Lewin, 1935; Lewin et al, 1944), Attribution Theory (Weiner, 1988) and Social-Cognitive Theories (Bandura, 1986) evolved out of the research. These took educational psychology further away from the concept of individuals as 'origins' or 'pawns' (De Charms, 1968).

Expectancy-Value Theories comprise 'individuals' beliefs and judgements about their capabilities to perform tasks successfully' (Schunk et al., 2008: 53). Expectancy as a concept includes aspects of goal setting and self-concept and draws contemporary thinking closer to the self theories of Dweck (2006) explained later within this review.

Achievement Motivation (McClelland, 1961; Atkinson, 1964) is an example of Expectancy-Value Theory and comprises a conceptualisation of personality factors and situational factors, each affecting motivation in their own way. In relation to the personality aspect: 'a motive to succeed [is] a basic personality characteristic' (Galloway et al., 2004: 93), and 'to such individuals, achieving through their own efforts is intrinsically satisfying' (Miner, 2006: 48). Those with a strong 'need to achieve' view failure as the route to further success, enjoy challenge and greatly value feedback: all aspects found within a growth mindset (Dweck, 2006). Individuals will react to certain situations in different ways and can be perceived to respond to the context they are in dependent on their characteristics. This provides a much broader understanding of the complexities of motivation and the relationship between internal and external constructs.

The situational aspect of Achievement Motivation is linked to Expectancy Theory (Tolman et al., 1932), as individuals will also assess a situation and make a decision as to whether or not they will engage with it. Miner (2006) suggests that 'achievement situations are characterised by intermediate levels of difficulty and risk' (p. 48). If the level of challenge is too easy there will be little satisfaction to be gained by engaging with it, whereas if it is too hard, then the motivation (or incentive value) to approach the task would be low and would reflect the probability of success. As a consequence 'the motive to success leads us to find tasks of an intermediate difficulty level most attractive' (Galloway et al., 2004: 94).

Attribution Theory is 'guided by the fundamental principle that thoughts...guide behaviour' (Weiner, 1988: 99). This cognitive theory views the individual as an origin for their own behaviour via interaction, with their own perceptions, about

their performance in the environment. For Weiner, what someone attributes their success and failure to can affect future motivation, self-esteem and behaviour. If reasons for failure are attributed to ability (for example 'I failed in the maths test because I can't do maths') 'they generate feelings of embarrassment, humiliation and shame...low self-esteem [and] low expectation of future goal attainment' (Weiner, 1988: 99). If factors outside the control of an individual (such as task difficulty and luck), are used as reasons for failure then self-esteem, pride, confidence and motivation may well be preserved. If an internal unstable factor such as effort is attributed to failure then, as it 'is subject to volitional change' (Weiner, 1988: 99), motivation is more likely to be sustained for next time. Following a perceived successful outcome, if an individual attributes the reason for the success to internal factors (those controlled by the individual - ability or effort) then self-esteem, motivation, confidence and approach behaviour will increase.

Moving further still towards the increasing focus on the relationship between the individual and the environment self theories 'refer to people's theories or beliefs about themselves' (Shunck et al., 2014: 210). They can also help explain why different people approach the same task or situation in different ways. Based on my own experience in the classroom, self theories allow a more individualised approach to motivation and, therefore, greater insight into my initial reasons for this investigation set out within my introduction.

Self-Determination Theory (Ryan and Deci, 2000) is one such perspective that lies within this category and 'is concerned with the nature and nurturing of those basic needs thought to support intrinsic task engagement' (Covington and Dray 2002: 38). It separates the concept of 'will' as 'the capacity of the human organism to choose how to satisfy its needs' (Deci, 1980: 26) with self-determination as 'the process of utilizing one's will' (Deci, 1980: 26). The theory suggests that being intrinsically motivated comprises three aspects: autonomy, competence and relatedness; a view upheld by Dournyei (2001), especially in relation to autonomy and competence. These concepts can be influenced by the context in which the individual learns and through 'the subjective meaning attributed to the achievement feedback received

by the learner' (Covington and Dray, 2002: 38). Therefore, Self-Determination Theory (Ryan and Deci, 2000) provides greater depth of understanding around the complexities of motivation as a concept. We are led towards a view that does not lie within a particular humanist or behavioural perspective but within a cognitive approach, involving interpretation of events, perceptions of self and of the environment, as well as the process of attributing our outcomes to perceived causes.

Dweck's (2006) theory of mindset is another self theory and has originated from years of research, popularised in her book 'Mindset' (Dweck, 2012). The theory is also termed an ability theory as it is constructed of two perspectives concerning intelligence: a fixed mindset (also called entity theory) and a growth mindset (also called incremental theory). Throughout this investigation I use the terms incremental/growth and entity/fixed interchangeably as appropriate. Her theory is commonly known as an implicit theory of intelligence, termed this way because such personal beliefs about the self 'are rarely made explicit' (Yeager and Dweck, 2012: 303).

An incremental belief is that intelligence is malleable and our abilities can increase with effort (Dweck, 2012). An entity belief is concerned with individuals having 'a certain amount of intelligence, a certain personality, and a certain moral character' that cannot be changed (Dweck, 2006: 6).

Research from Dweck (2007) has shown that individuals who believe in an incremental view of ability are more likely to think the process of learning will lead to them becoming more proficient and, therefore, adopt different (potentially more advanced) goals once current ones are attained. These goals are more likely to be about the process of learning rather than outcomes, while the individuals are more likely to select challenging tasks, take risks, embrace mistakes, persevere through difficulty and use feedback (Dweck, 1999).

Dweck (2012) and others have also shown that an individual's ability theory can be changed through people in the community using tools such as language, and concepts such as Mindset Theory, to share knowledge, encourage behaviours and embed new meaning. With the knowledge that individuals construct their own beliefs, but that these beliefs can be influenced by those around them, this moves motivational theory towards a more nuanced view within a sociocultural perspective (Vygotsky, 1978). Here the view is of motivation created by an individual as they translate meaning from cultural values mediated by social interaction.

Ability theory's links to wider cognitive psychology.

Mindset Theory (Dweck, 2012) is closely connected to self-efficacy as they both deal with the concept of self and the approach behaviour likely to result when confronted with different academic tasks. Self-efficacy has been shown in many studies to predict achievement (Bandura, 1997; Pajarfes, 1996; Schunk, 1995) and so the development of a healthy self-efficacy, which can occur when a growth mindset is developed (Dweck, 2000), would be beneficial. Furthermore, as holding an incremental view of ability can improve the perception one has of their own competence (Dweck, 2000) then, based on self-determination theory (Deci and Ryan, 2000), intrinsic motivation may increase as a result. Moreover, studies have found a correlation with self-efficacy and the aspirational nature of goal setting (Locke and Latham, 1990), a topic I discuss in greater detail below. If students have a growth mindset and, therefore, have a developed sense of self-efficacy it would be reasonable to suggest that this may result in the setting of higher, learning orientated, goals during the process of self-regulation (Zimmerman, 1989).

As mentioned earlier in this review when discussing Attribution Theory (Weiner, 1988), what an individual perceives as a reason for a particular outcome will affect confidence, motivation, and the adoption of approach behaviour next time they are in that situation. If an individual has a view of their ability as something that can change with increased effort and persistence, they will be less likely to adopt

learned helplessness and avoidance behaviour, becoming more likely to move towards mastery orientation (Yeager and Dweck, 2012). Achievement Motivation (McClelland, 1961; Atkinson, 1964) can also be linked to ability theory as the need-to-achieve personalities share many attributes with individuals who believe in a growth mindset. These include a willingness to embrace challenge and a desire to receive feedback (Dweck, 2000; Atkinson, 1964).

Ability theory is also closely connected with the concept of 'goal orientations', which can be defined as 'the purpose or reasons for engaging in achievement tasks' (Shunck et al., 2014: 213). A mastery goal has its focus on self-improvement and examples would commonly include 'developing new skills[...]developing competence[...]and trying to gain understanding or insight' (Shunck et al., 2014: 213); the use of such goals will be synonymous with an incremental, growth mindset (Dweck, 2000). In contrast a performance goal is about comparison to others, for example 'striving to be the best in the group [and] avoiding judgements of low ability or appearing incompetent' (Shunck et al., 2014: 213). Performance goals have been linked with entity theory and a fixed mindset, resulting in avoidance behaviour, a lack of persistence and the decision to reject challenge (Ames, 1992; Robins and Pals, 2002).

According to Carr and Claxton (2004: 106) the ability to engage in learning 'consists of two inter-related facets: capabilities and dispositions'. 'Capabilities' relate to an individual's competence and 'dispositions' to habits of mind - the extent to which individuals apply themselves as learners and, as such, become more competent. Indeed, 'one has to be disposed to learn, ready and willing to take learning opportunities, as well as able' (p.106). I see Dweck's theory as underpinning and supporting this relationship between ability and disposition and believe that, if we can shape an individual's concept of ability it will affect the extent to which they act and apply themselves as learners.

Carr and Claxton (2004) also regard Dweck's theory as something that would aid the development of one of the most important learning dispositions: resilience.

They suggest that those who view their ability as being fixed, and who perceive struggle to mean they are not intelligent, will choose less challenging tasks, will not persevere, and will instead choose an easier option so that they can look good; a finding supported by Dweck (2012) and Farrington et al. (2012). People who have a growth mindset, according to Dweck, have as their hallmark 'the passion for stretching [themselves] and sticking to it, even (or especially) when it's not going well' (Dweck, 2006: 8).

The role of parents in their child's learning.

The perceived role of the parent in a child's schooling has varied within the literature during the relatively short time that it has been discussed. Opportunities have been identified, ranging from: parents as recipients of school reporting, as classroom volunteers, programme supporters, co-learners and advocates of their child, to decision makers with their child and/or with the school, an audience for their child and as a teacher of their own child (Cervone and O'leary, 1982; Hester, 1989; Epstein et al., 2002).

Further investigation of the literature (Desfroges and Abouchar, 2003; Jeynes, 2005; Harris et al. 2009; Lucas, 2010), has revealed the use of two words often used to categorise these different types of parental participation, namely 'involvement' and 'engagement'.

Parental involvement can be defined as 'parental participation in the educational processes and experiences of their children' (Jeynes, 2005: 245). It represents a more passive role in schooling than engagement (Lucas, 2010), and is more associated with 'school generated requirements' (Lucas, 2010: 3), such as receiving academic reports, attending parents evenings and supporting the child by coming to watch a sporting fixture for example (Desforges and Abouchar, 2003; Jeynes, 2005; Harris et al. 2009).

Lucas (2010) describes engagement as 'a more active and personal level of participation in learning' (p.1), and can be categorised into three sections, 'for learning', 'through learning' and 'about learning' (Harris et al., 2009: 8). Within this concept, is about connecting parents with materials (online resources etc) to help support their child, is providing the opportunity for parents to extend their own education by attending classes/study groups, and by educating parents about the science of learning, including how they can help make their children better learners (Harris et al., 2009).

Although parental involvement is important and has been found to positively impact on students' academic attainment and perception of self (Desfouges and Abouchar, 2003; Harris et al. 2009), 'parents can be involved[...]without being engaged[...]yet it is parental engagement in learning that brings significant gains' (Harris et al., 2009: 12). Extensive international research supports the potential of parental engagement as a means of improving academic achievements and social engagement for children of all ages (Desforges and Abouchaar, 2003; Epstein, 2001; Jeynes, 1995, 1997). The most effective schools are now widely considered to be those that support and encourage the engagement of family members in the education of their children (Grant and Ray, 2010; Henderson and Mapp, 2002).

The effects of parental involvement and engagement have seemed to vary and depend on such variables as socioeconomic status, gender, age and parenting style (Desforges and Abouchaar, 2003; Hattie, 2009; Jeynes, 2005). Rosenzweig (2000) found the general concept of 'the parent as supportive' most influential on student achievement, more so than parental supervision of homework, involvement in school events, communication with teachers, a disciplined parenting style or the monitoring of school progress. Hong and Ho (2005) found that parental aspiration had most impact on student learning with anything perceived as monitoring behaviour deemed to have a negative effect possibly due to an impingement on perceived autonomy (Deci and Ryan, 2000). Furthermore, Casto and Lewis (1984), Moss (1992) and Innocenti et al. (1992) found that there was little evidence for the impact of parental intervention and participation in student learning. These

findings could be because 'many parents[...]struggle to comprehend the language of learning' something that disadvantages them when working with their children (Hattie, 2011: 70). Even so there is still much more evidence that supports the benefits of parental engagement and involvement than not.

The literature suggests that parenting has influence indirectly through shaping the child's self concept as a learner and through setting high aspirations - all aspects of being 'engaged' rather than 'involved'. Indeed, 'parental aspirations and expectations for children's educational achievement has the strongest relations with achievement' (Hattie, 2011: 70); much more so than communication to school, assistance with homework, parental supervision and the home surroundings.

Recorded benefits to parental engagement include 'raised achievement, raised self esteem, increased motivation and engagement and, importantly, raised aspirations' (Goodhall and Montgomery, 2014: 9). Parental engagement has also been associated with 'more positive perceptions of classroom and school climate, stronger self-regulatory skills, stronger work orientation and higher educational aspirations' (Hoover-Dempsey et al., 2002: 10).

In regards to parental effects on motivation, 'one of parents' most appreciated roles is in encouraging and motivating children' (Grant, 2010: 53). 'It appears that parents who provide support for their children, but do not become coercive or controlling in their influence, produce academically motivated children' (Urdan et al., 2007: 2). On the other hand 'when parents' involvement involves a surveillance approach' (Hattie, 2011: 68) there are negative effects on student learning. This seems to reflect the findings of De Charms (1968) and Deci and Ryan (2000), highlighting the importance of autonomy as an influence on a learner's intrinsic motivation.

Parental engagement has also been linked to the development of mastery orientation (Dweck, 2000), a motivational perspective that closely correlates with the view of the incremental theory of ability (Dweck, 2012). It has also been found that parent behaviour can affect their children's achievement values, perceptions of

competence and achievement motivation (Martin, 1975 and Crandall, 1969), as well as social attitudes and mental health (Rumberger et al., 1990). Furthermore, Lucas (2010: 3) identifies self-regulation, empathy and persistence as three character attributes that are most useful to successful learning, three aspects that Henderson and Mapp (2002) have found can be enhanced by parental engagement.

Having discussed the importance of context for motivation, and the dialectic between the individual and their environment, it also seems appropriate to use the sociocultural perspective (Vygostky, 1978) when viewing the nature of parenting. Within the 'complex mediated act' (Vygotsky, 1978: 40) of parental engagement, parents can act as experienced others, scaffolding meaning within their child's zone of proximal development (Vygotsky, 1978).

Parental engagement using a sociocultural perspective (Vygotsky, 1978) typifies the concept of the 'wholeness approach' (Hedegaard and Fleer, 2013). Here the development of the child is viewed as an active process for everyone, including the child, within the environment in which they are situated. Therefore, all environmental influences (including home and school) should be taken into account when evaluating how individuals develop, learn and internalise cultural values. Rosenzweig (2001) also shares the view that the concept of education is best described through a holistic, wholeness approach. When attempting to show the relationship between the learner, school and the family she identifies 'school practices', 'parenting practices' and 'student attributes' all as interrelating and being situated within a wider community.

In summary it is clear that 'when schools, families and community groups work together to support learning, children tend to do better at school, stay in school longer and like school more' (Henderson and Mapp, 2002: 10), a sure sign that 'cultures play a large role in shaping the development of individual minds' (Wells and Claxton, 2002: 3). Frustratingly however, teachers can often feel parental engagement is about parents benefiting the school while parents think that it is about the school benefiting them (Harris et al., 2009). This sort of thinking, which

deconstructs the concept of wholeness into silos and micro relationships, only serves to reduce the effectiveness of educational settings. Only by viewing the concept of schooling as a collaborative process that engages all individuals that create the culture around the child can we be most effective at developing sustainable programmes for parental engagement.

In light of my review of the literature my study sought to answer two main research questions:

1. To what extent does parental engagement impact upon growth mindset and academic behaviours within the context of my investigation?
2. What guidelines may be useful for an educational community looking to develop more conscious parenting in relation to mindset theory?

Methodology

Design:

My qualitative study took the form of a case study. The intervention involved coaching parents to develop their child's growth mindset as an example of parental engagement.

A case study has been described as 'in-depth research into one case or a small set of cases' (Thomas, 2013: 150). In this instance the case study was multiple in nature as it involved more than one case and therefore an element of comparison; diachronic as it 'show[ed] how changes may have happened over time' (Thomas, 2013: 153) as well as synchronic as cases were compared at specific moments in time. It was also parallel as 'the cases [were] all happening and being studied at the same time' and simple comparative as it was 'a straightforward comparison between clearly different examples' (Thomas, 2013: 153).

This research frame was adopted as it:

> Can establish cause and effect[...]recognising that context is a powerful determinant[...]that in-depth understanding is required to do the case justice[...and] is particularly valuable when the researcher has little control over events (Cohen et al., 2011:289).

It also enabled me to obtain rich and varied data from the participants within the community I was studying.

Participants:

In my role within this research I had the position of an interpretivist researcher conducting in-depth, semi-structured interviews, coaching parents and leading other forms of data gathering as described below. To gather the rich data required for a case study this interpretivist stance allowed me to take a particular approach to analysing the data.

In such a privileged position I needed to be wary of the dangers of the 'experimenter-expectancy effect' (Thomas, 2013: 142), in which there may be 'personal bias' (Cohen et al., 2011: 540), 'brought about by the expectations of the researcher' (Thomas, 2013: 142). To combat this I could only really be aware of the potential of this and be as objective as possible in my analysis of results.

In the knowledge that it can be difficult to generalise the findings from such a research frame and to enable more reliable, rich and vivid data to be obtained (Hitchcock and Hughes, 1995), I decided to limit the number of variables as much as I could. The sample involved four young adolescent males who were all day students (this means they all lived locally and did not board at school). They came from the same tutor group which meant that they had the vast majority of their lessons together, and therefore, most of their teachers are the same, as well as having their tutor time together each week with the same tutor.

The sample was selected from Year 9 and, therefore, the individuals were all 14yrs old. The reason that this age group was selected was due to my perception from the literature review, as well as my own experience in secondary schools, that an individual's implicit theories of self are most impressionable during early adolescence (Yeager and Dweck, 2012; Collins and Laursen, 2004; Steinberg and Silk, 2002; Grolnick et al., 2007; Smetana et al., 2004; Hill and Chao, 2009; Berzonsky and Adams, 2003; Seginer, 2006; Eccles and Barber, 1999).

I wanted the gender to be the same so that the findings could be more generalisable and I would have more data to analyse for one gender group. Boys were chosen over girls as the gender for the project. This was a result of my own experience of teaching the group in question the year before and followed a meeting with my critical friend group (see section on data gathering) where this was discussed. It was felt that the boys in that year group were going through a particularly challenging time and lacked motivation in comparison with the girls.

To avoid any final selection bias the four male students from the particular tutor group in Year 9 were chosen at random. All of the names within that group were written down on paper, covered up and then picked out by a colleague. I then approached them and their parents to gauge their interest in being involved as explained in the section below.

Ethics:

I wrote to the Headmistress on University headed paper explaining my reasons for wishing to engage with a study of this nature and detailing my proposed research methods (see appendix 1). The Headmistress kindly agreed for me to lead my investigation as planned and sought CUREC approval.

Having consulted the BERA (2011) guidelines for educational research, I was aware that my research should be conducted with the utmost respect for 'the person,

knowledge, democratic values, the quality of educational research [and] academic freedom' (p. 4).

'Consent is about the agreement of people to take part in the study' (Thomas, 2009: 149). As per the United Nations Conventions for the Rights of the Child, Articles 3 and 12 - the interests of the child were my primary concern. I judged there to be limited risk for the child, and parent, as a result of participation in the study. I arrived at this conclusion due to the nature of my project and the fact there was a very low probability that any laws would be broken, psychological or physical harm caused to anyone, or personal privacy infringed in any way.

I decided on an 'opting-in' approach rather than 'implied consent' (Thomas, 2009: 150) and, although there is some evidence to suggest an opting-in approach may skew data (Thomas, 2009) my sampling method ensured that this risk was prevented as best as possible. I sought 'voluntary informed consent' (BERA, (2011: 6-7) from the students, their parents and teachers. This first involved an email (see appendix 2) to teachers to check that they were happy to observe the students during the research period in relation to growth mindset behaviours, to keep a diary charting any changes as they were observed and to complete a questionnaire at the end of the research period. The email also contained an exemplar diary entry to help them fully understand the requirements of this aspect of the data gathering process, and asked the teachers not to discuss the investigation with students, as this may affect how the students behaved.

Following an email response confirming the teachers' willingness to be involved I met with each student and their parents to discuss the nature of the research. I met with students first as I did not wish to waste the time of the parents should the students not wish to take part. I informed the students about the relevant methods for data gathering as explained in the 'data gathering' section of the methodology.

Once a student gave their initial verbal consent I contacted their parents and met with them to explain the nature of the investigation and discuss the instruments of

data gathering that they were involved with (also contained within the data gathering section). We discussed a proposed timeline of meetings to ensure they were convenient for their schedules, as well as an overview of Mindset Theory (Dweck, 2012), and examples of the type of strategies they could use to enhance their child's growth mindset. I stipulated to students, parents and teachers that the results of my investigations would be documented within the write up of my project.

As per BERA (2011) guidelines I informed all participants, before the investigation began, of 'the right of any participant to withdraw from the research for any or no reason, and at any time' (p.6) a message a repeated throughout the six month period.

Once a parent had given their verbal consent to be involved I asked both student and parent to sign separate documents (see appendix 3) which formally logged their consent. For reasons of validity I decided, in consultation with the parents and with their written consent, not to inform the students that their parents were the intervention that I was investigating, and not to talk to them about what I was investigating. I also decided not to mention to the students that their teachers would be looking for any specific changes in their behaviour during the investigation. It was my thought that if the students knew these things it may well influence how the students, teachers and parents behaved.

I made sure that the 'bureaucratic burden' (BERA, 2011: 7) was lessened for both parents and students by being as prepared as possible before conducting any data collection. I arranged times to gather data that were most convenient with students (during lunchtimes and/or after school) and during the early evening for parents. These times were checked with all participants as being most convenient for them and the full demands of involvement in the study were shared with them before they agreed to be involved.

Before students completed any part of the data collection I warned them of 'prestige bias' (Thomas, 2009) which represents the dangers of answering questions 'to look good: to appear clever[...]educated[...]and so on' (p. 174). It was my hope that making it clear to students about the importance of communicating how they actually felt or what they believed, as opposed to how they thought they should feel or what they wanted to believe, would enable more accurate results and reduce any anxiety associated with taking part.

As both an educational researcher and a practising teacher, I was aware of the potential difficulties balancing both roles. However, I was happy that the community relationships within the school were suitably professional enough to enable me to carry out my work without either role being compromised.

As per the legal requirements of the Data Protection Act (1998), all information relating to the participants was kept in a secure, locked, filing cabinet that only I had access to and on my personal computer, encrypted by a password that only I knew. Both the computer and the filing cabinet were in my office which remained locked when I was not present within it.

Data gathering:

It has long been thought of value to work with 'critical friends' (Cohen et al., 2011; McNiff and Whitehead, 2011; Thomas, 2009). In light of this I identified suitable individuals who then met with me to 'consider contextual aspects and the internal coherence of my research' (McNiff and Whitehead, 2011: 164). These individuals also agreed to form a 'validation group' (McNiff and Whitehead, 2011) and met with me to scrutinise aspects of my research plan as well as asking searching questions about my own assumptions and data collection methods. The individuals involved were also within the senior leadership group of the school and have also undertaken further educational research themselves. I knew that the critical aspect of this process was both practised (in our day to day work) and grounded in experience (gained undertaking their own research).

I chose to use a mixed methods approach which was intended to gather data that was as rich as possible. As this was an in-depth case study approach it was important to create this methodological triangulation (Denzin, 1978). Methodological triangulation is considered to enhance the reliability of a study (Cohen et al., 2011), allow viewpoints to be collected from different angles and also seeks to combat the potential for 'self-enhancement bias [and] self-diminishment bias' (John and Robins, 1994: 206) as well as seek confirmation of 'causal direction' (Thomas, 2013: 141). Furthermore, it helped me through the 'double hermeneutic process' (Giddens, 1976) where I processed the data from my case studies and then translated their perceptions as accurately and objectively as possible to my audience.

By using the same tools as appropriate during each of the two data gathering sessions, carefully designing my methods and replicating the scenarios as closely as possible, I sought to increase the test-retest reliability of the investigation (Thomas, 2009: 105). I used the following methods as my instruments:

- A mindset questionnaire

This was completed by the students at the start and end of the research period. For the data to be meaningful I had to consider instrument-based validity, 'the degree to which the instrument measures what it is supposed to be measuring' (Thomas, 2013: 140). The questionnaire had been designed by Dweck (2006) and used in similar studies (Rienzo et al., 2015); (see appendix 4 for a copy of the questions). To make sure the test was appropriate for the students, four children of similar reading ages to the case study students completed the questionnaire in advance; they reported no problems in answering the questions.

- Photographs and drawings

At the start and end of the research period the students also drew pictures and presented photos they had taken. I said to the students that these images could be of anything they wished, however, one set of images should represent how they felt about themselves as a learner and the other set how they felt about school. Including this method of data gathering provided another way in which the students could communicate their feelings and, along with the interviews and questionnaires, sought to provide an increased richness of data due to the variation of data gathering techniques.

Students completed the questionnaire and drawings at the same time to reduce the 'bureaucratic burden' (BERA, 2011: 7); they were in silence and were sat where they could not see what anyone else was doing. So that my own interpretation of the data could be more accurate I asked each student to explain the meanings of the images via written annotation (McNiff and Whitehead, 2011).

- Semi-structured interviews

Students were interviewed at the beginning and end of the research period. As the parents were keeping a diary during the project I only interviewed them at the end of the research; this also served to lessen the time commitment for them. Due to the number of teachers involved in the project I gained their input via a questionnaire at the end of the research rather than interviews which would have proved too time consuming.

I used semi-structured interviews to obtain data from both the students and their parents. This method combines 'the structure of a list [of questions] to be covered together with the freedom to follow up points as necessary'. I chose this method over structured interviews, where the researcher 'asks a predetermined set of questions' (Thomas, 2009: 162) and unstructured interviews where 'there is no pre-determined format[...]interviewees are the ones allowed to set the

agenda...determining the issues to be covered' (Thomas, 2009: 163), because I needed some kind of structure so as to have data that was comparable, both for the same individual and between different students over time and also to focus my data gathering on specific areas in relation to mindset.

Using a semi-structured approach also allowed me to explore a particular response in greater depth as the interviewee responded enabling me to gain more information or clarification and broaden the depth of my investigation. This also meant that I used a combination of closed and open questions, which have their own benefits and shortcomings:

> Closed questions that look for yes/no' answers are easier to analyse, but do not give much information. [However] more open questions that allow personal responses are more difficult to analyse, but provide rich information and insights (McNiff and Whitehead, 2011: 144).

As part of this approach I noted down some potential follow up questions to use with each structured question although this did not prevent me from asking questions that I had not previously written down if appropriate. At the start of the interviews with parents I spoke about the fact that, although they may wish the intervention to have worked, they must be very honest when reflecting on the questions asked, the notes made and the answers they give.

To analyse the interviews I audio recorded them. The students were not happy being videoed and so I did not use this method; to remain consistent in my approach I also decided not to video the interviews with parents. Due to my perceived time constraints I decided not to transcribe them verbatim but rather to listen back to the recording and analyse it as I went, using relevant excerpts within my work. I paid attention to voice tone, pauses and anything else that I thought could provide me with a greater richness and insight. I had a note pad with me for each interview and noted down any physical reactions such as shuffling, looking down at the floor etc. as they happened. I also noted the time within the interview

that any of these observations took place so that I could be more accurate with my association when I listened back to the recording. The inclusion of these observations allowed for a thicker analysis of the data (Geertz, 1973) through a broader picture of both verbal and nonverbal communication.

- An online questionnaire for the teachers

I designed the teacher questionnaire myself and shared it with my critical friends. Following this, and the completion of it by two other members of staff unconnected with the project as a pilot, I received sufficient feedback to fine tune it; some words within the questions were changed as a result. I also made it clear that I would not be drawing any inferences between their perception of the students behaviour and the teacher's teaching as well as confirming the meaning of some key words such as 'feedback' within the questionnaire itself. Google Forms was used as a platform as it is something that all staff are familiar with and enabled me to see the data clearly.

- Diary Entries

I asked the parents and teachers to keep an 'interval contingent' diary, where 'participants report on their experiences at regular intervals' throughout the duration of the intervention (Thomas, 2013: 200). This charts any changes in behaviour of the students and feelings of the parents, as well as what strategies were working and what were not. Due to the fact that the research period was six months I also felt that referring back to such diary entries would aid the reliability of any reflections during the answers to the questionnaire (in the case of the teachers), and help for more meaningful discussions during the interview with each parent.

I took time over my mixed methods approach and fully built my awareness of factors affecting validity and reliability; in doing so I made sure that experimental validity was addressed as effectively as possible.

The implementation of the intervention:

Before the data gathering process began, and after parents had agreed to be part of the investigation, I met with all parents to agree the timetable for meetings. I stated that I would be available to contact at any point throughout the process should they wish to do so. I also made it clear that they were the intervention and that the school would not be doing anything with the students on developing their growth mindset during this period.

During this initial meeting I explained the concept of mindset theory (Dweck, 2000); there was time for questions and the meeting lasted around 90 minutes. I discussed my reasons for choosing this line of enquiry as well as the benefits that current research suggests that an incremental view of intelligence can have. However, as I have not been able to find any research on the effects of parental engagement on the development of a growth mindset, I was able to use this as an opportunity to state that we could not assume anything concerning the potential effects of this work.

I shared the graphic, (appendix 5) with them and, in relation to their children, we highlighted several learning behaviours that their process praise, goal setting and questioning should be directed towards, including:

- Choosing to challenge themselves and take risks
- Embracing mistakes and failure as part of improvement
- Putting in effort
- Persevering when things are difficult
- Looking for and utilising feedback

Having read the literature on the best methods to establish an effective mindset intervention I spoke to the parents about adopting a 'stealthy' approach (Urdan and Turner, 2005; Rienzo et al., 2015; Yeager and Walton, 2011; Yeager et al., 2013). Other studies had also shown (albeit for a study between teachers and students)

that an overly heavy handed approach may reduce the feeling of autonomy thought of as influential for learning (Deci and Ryan, 2000) and as such reduce effectiveness. In practice this meant that parents should be subtle with how they introduced any conversation about their child's mindset and associated learning behaviours.

Another reason for more of a covert approach is that if adolescents perceive that the intervention is in place because they have a deficiency of some sort then the initiative may lack benefit (Yeager et al., 2013). Parents therefore needed to be careful when using praise and we discussed focussing on a mix of process orientated praise to develop mastery orientation and effective causal attribution (Dweck, 2000; Hong et al., 1999; Blackwell et al, 2007; Robins and pals, 2002; Mueller and Dweck, 1998; Haimovitz and Henderlong, 2011), as well as being wary of over-praising which may communicate low-expectations (Willingham, 2007). We also discussed developing collaboratively planned learning (or task or process) goals (Dweck, 2000), asking questions to promote metacognition, discussion and reflection (Black and Wiliam, 1998a; White and Frederiksen, 2005) while strategically and subtly sharing knowledge about the plasticity of the brain and the malleability of intelligence as and when appropriate in a light touch way (Dweck 2012, Paunesku et al., 2015; Rienzo et al., 2015).

During the course of the intervention, which lasted six months, I met with the parents all together every two months for around 60 minutes as well as communicating on a few occasions via email. I felt that this was an important part of the coaching process and allowed autonomy for the parents (Deci and Ryan, 2000) while enabling them to confirm understanding and share ideas.

Findings and Discussion

As noted in Dweck (2007) much of the literature surrounding mindset theory (Dweck, 2007; Aronson et al., 2002; Blackwell et al., 2007; Good et al., 2003) identifies clear behaviours and dispositions that characterise a growth mindset,

including the willingness to accept challenges, seeing effort as the path to mastery, persevering when things are difficult, embracing mistakes as part of improving, taking risks and using critique to improve.

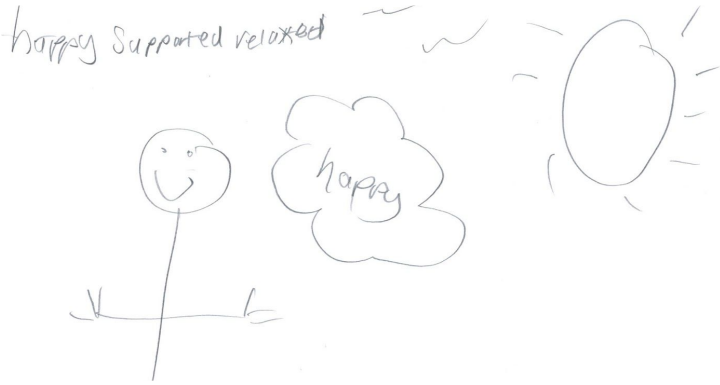
I discuss the results for each of my four case studies, guided by the following subheadings:

- Myself as a learner (including concepts such as effort, motivation and confidence)
- My view of school
- Embracing challenge
- Failure, risk taking and mistakes
- Feedback and critique
- Perseverance
- Growth mindset questionnaire results
- The perceived reasons for any changes in mindset (student and parent viewpoints)
- What parents found most useful and why

I identify each child as follows: Case Study 1 (CS1), CS2, CS3 and CS4.

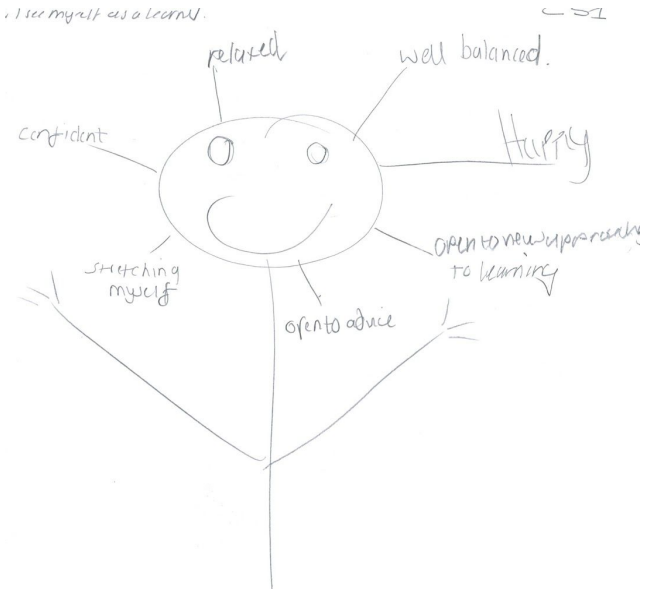
<u>Myself as a learner:</u>

CS1's perception of himself before the intervention was that he was 'relaxed', 'open to other ideas', 'reasonably good', and 'could put more effort in'. This view was upheld by his picture and drawing which showed a relaxed atmosphere among his friends. His annotations on the drawings explained that the situation showed him to be a happy individual at school within a supportive learning environment.



He stated that his learning was 'pretty strong' (intellectually) and that he was 'pretty intelligent'. My notes showed his unease at discussing intellect and that he became withdrawn and a little sheepish. He stated that 'intelligence is only measured in comparison to other people' and that he subconsciously compares himself to others. Comparison to peers has been found to be common in those with a fixed mindset suggesting that entity theory was being displayed in this situation by CS1 (Yeager and Dweck, 2012).

His photo at the end of the intervention showed a very similar scene however, his second drawing included new comments such as 'confident' and 'stretching myself'.



'Open to advice', 'happy' and 'relaxed' were included again within his second interview, while 'could put more effort in' was no longer present. This seemed to

support other findings described below that suggest an increasing confidence in his abilities to achieve and willingness to embrace challenge.

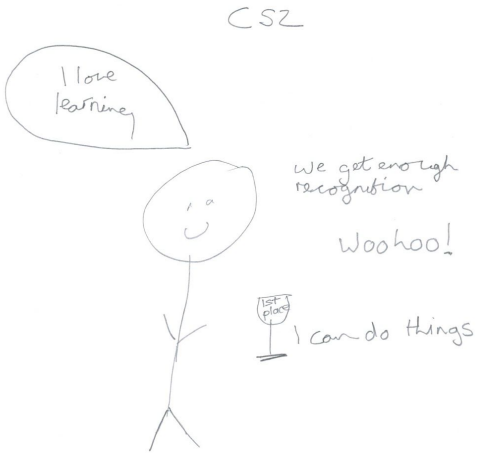
When asked to reflect on whether or not his approach to learning had changed at all at the end of the study his teachers commented on: a 'more 'upbeat' approach to problem solving and challenge', and of 'not getting '10s' for everything', 'he is enjoying the journey more rather than expecting to arrive', 'he asks how he can improve 'specifically' which is great news for his learning outcomes'. All of these statements indicate a developing incremental mindset and the adopting of learning goals rather than performance goals (Dweck, 2000). They also account for CS1's results for persistence and mistakes (contained later within this chapter), which show that the adoption of learning goals meant 'failure is likely to provoke continued effort' (Dweck, 2000).

The results of the questionnaire completed by his teachers showed that 57.1% of teachers felt he had increased in his motivation since the start of the project. 42.9% felt there had been no change with no teachers feeling he had declined in motivation. 71.4% of his teachers felt that there had been a clear increase in his effort levels, with comments including that he had 'asked more questions without being prompted', 'sought more feedback', 'produced work on time' and 'worked harder during lessons[...]as well as producing better preps'; 28.6% noticing no change. These results triangulate the evidence for an improvement in these aspects of an incremental mindset for CS1.

Following the intervention CS1 described himself as 'keen and interested', that he was 'more motivated now' and 'feels a lot more confident about his abilities'. The diary from his parents and the interview with his mother seemed to confirm this including comments such as 'he will have a go at prep more frequently', 'he asked me to look over his work to check it on many different occasions' and 'he stated that he was enjoying school more as he felt he could improve'. My coding showed that, when describing intelligence, he appeared less self-conscious and more confident, supporting the evidence that an incremental mindset increased

self-esteem (Lawrence, 2006; Covington 1984). He did not mention that intelligence could only be measured 'in comparison to others' and when I asked him about this previous statement said that 'intelligence can be built on[...]I prefer to think about my progress now', a statement which appears grounded in the adoption of incremental theory.

CS2 described himself as a 'good learner' but in 'some subjects I can be not so good'. In the second interview he stated that 'I am a good learner; everyone can be if they put their mind to it. Learning is quite easy when you are in the right frame of mind'. He also annotated his drawing after the intervention period with comments such as 'I love learning' showing some development in intrinsic motivation and self-determining behaviours (Ryan and Deci, 2000; De Charms 1968).



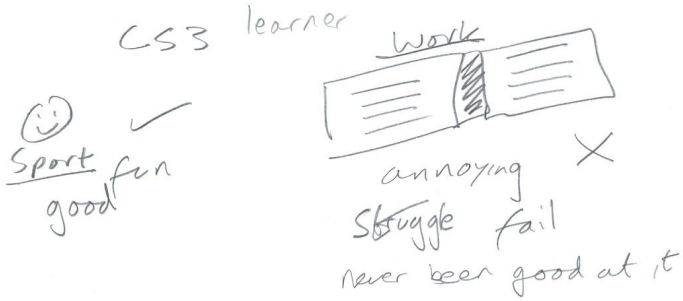
The drawing at the end of the intervention included the annotation 'we get enough recognition'. Next to this statement there was a picture of a cup with 1st place and a smiling person. CS3 also spoke of recognition in this way, supporting the view that 'motivation can be seen as the need for achievement, to be recognised for one's abilities, outcomes and competence' (Dweck and Molden, 2005: 122). Grounded in the perspective of extrinsic motivation, this view would place aspects of CS2 and CS3 on a continuum between origin and pawn (De Charms 1968).

CS2's view of his own intelligence in the first interview was that 'yes I am intelligent'; and when asked about increasing intelligence that 'mmm, yeah, you can get more intelligent. The more you know the more intelligent you get'.

Interestingly, when asked in the second interview, the response to whether or not he was intelligent was the same, he thought he was. However, when asked about intelligence increasing he stated 'yes, but you can't label how intelligent you are'. When asked about this last statement he commented that 'your intelligence can vary hugely depending on effort and so you are probably always in a state of change'. I felt this showed an increase in incremental mindset and a belief that intelligence was more malleable (Dweck, 2012).

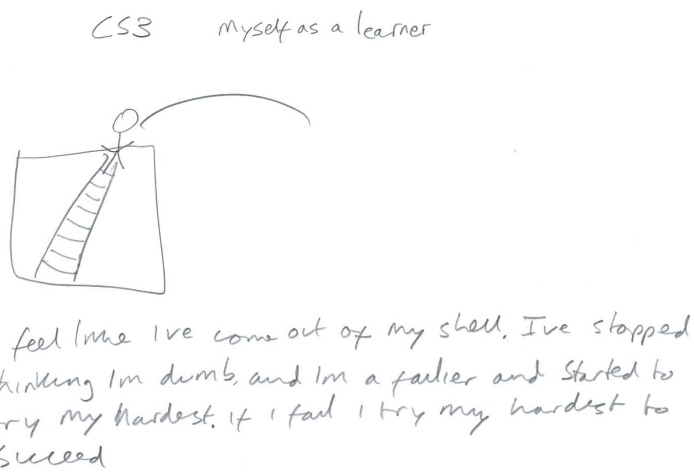
At the end of the second interview CS2 stated that he felt more motivated to work since the time of the first interview, a view that was upheld by 57.1% of his teachers who recorded seeing 'more work being produced', 'a higher work rate in lessons' and CS2 'being more engaged throughout class', while 42.9% believed there had been no change. 71.4% of teachers felt there had been a positive change in the way CS2 approached his learning with 28.6% feeling there had been no change. Staff commented in their logs that he 'has much greater self-confidence now', is 'more positive when things are hard', is 'more focussed on a variety of different activities' and is 'regularly better behaved in class'.

During the initial interview CS3 stated that 'I have never been the sort of person to sit down and write'. Getting emotional and fidgeting quite obviously, he went on to state that 'I want to achieve' but 'I don't feel I am capable of doing well academically[...]I don't think i'll pass my GCSEs[...]I doubt myself and my ability academically'. He commented that 'I like to learn but can get annoyed as I'm not good at academic things'. Furthermore he 'feels like giving up when doing academic work', while his drawings seemed to show an enjoyment of sport but not of thinking and working. Such comments point to an entity belief and the attribution of failure to his own ability.



During the second interview his demeanour had changed, more so than any other of the case study students in the time that I had with them. He stated that as a learner he 'can be organised, however, sometimes I'm not organised and I don't put all my effort into my work which can lower my achievement'. This suggested a more incremental mindset and that his attributions had changed to some degree (Hong et al., 1999; Blackwell et al., 2007; Robins and Pals, 2002). He linked controllable behaviours to his achievement and seemed to acknowledge the fact that he was empowered to succeed. He went onto state that 'I don't feel as bad about myself as a learner anymore; I am not as frustrated about academic work'.

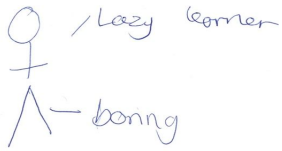
Asked about GCSEs he commented, with pride and confidence, that 'I think I will pass my GCSEs, so long as I keep putting effort in and control all the things I can; I am capable of doing well academically and am getting more confident'. This was a change from the first interview with his body language being wholly positive. His final pictures showed him climbing out of a box, 'I've come out of my shell' he wrote, annotating his drawings with 'I feel [I] have started to try my hardest, if I fail I try my hardest to succeed'. This too suggested the development of an incremental mindset and the changes in academic behaviour that have been cited in studies including Aronson et al. (2002) and Good et al. (2003).



This perceived positive change in behaviour was also felt by CS3's parents in their diary and during the interview with his father. They felt that 'CS3 has definitely changed, for a start he now wants to work[...]he even took the initiative to map out his revision for some recent tests'.

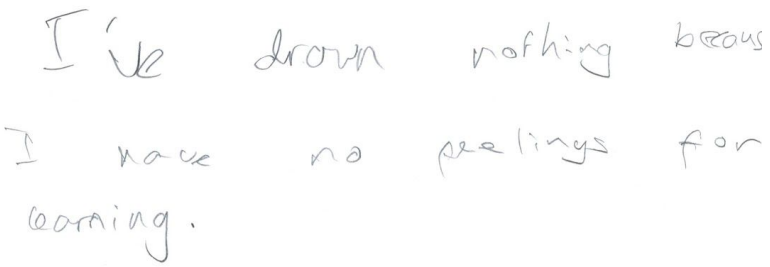
Further improvement was noted by his teachers with 66.7% feeling he had increased in motivation, noticing 'a more positive demeanour during lessons', 'quicker to engage', 'quicker to get to task' and 'an increased tendency to do more than required. 32.3% being of the opinion that there had been no change. 72.7% of his teachers felt he had changed his general approach to lessons in a positive way with 27.3% perceiving there had been no change. Teachers comments included that he was 'now working harder', 'always on time now', 'keener to work', 'has higher expectations of himself' and that he was 'more focussed'. 75% of his teachers noticed that there had been a clear increase in his effort evidenced by 'increased peer discussion', 'an increased activity level in class' and 'more willingness to proofread'; 25% noticed no change.

During the first interview with CS4 he stated that he was a 'lazy learner', he 'doesn't try' and that he 'feels he isn't very clever'. The feeling of laziness was something that was reinforced by the first drawing he made of himself as a learner, annotated as 'lazy'.



During the second interview he used the word 'average' to describe himself however, he added that 'I work hard when I get into it; I am lazy but not when I get into it'. He stated that he now realises 'I can produce really good work'; something that may have come out of efforts he made between the first and second interview.

Upon being asked the question as to whether he could achieve in his academic work he avoided eye contact and very swiftly muttered 'yeh'. 'Yeh' was the same response to the question of whether or not he wanted to do well. I noted that there was a raised tone to his voice on that particular response - it felt like hope but was not convincing. With a defeatist and exasperated tone he concluded his remarks in the second interview by stating: 'I wish I could try but I just can't'. It is perhaps not surprising then when his second picture was just of the colour black, annotated with the words: 'learning has no sense of colour or fun', and that his second drawing showed he felt nothing for the concept of learning.



He appeared lacking intrinsic motivation to learn but did realise, to some extent, the role that effort plays in any of his success.

The interview with his mother and his mother's diary showed improvements in his behaviour. His mother mentioned that 'he appears more engaged[...]he is taking his work more seriously and trying harder'. She stated that 'he will now phone me from school when he has done well', that 'he was now working in his room and showing me what he has done' and that 'it was incredible how much work he put into some recent tests'.

During my own interactions with CS4, as one of his classroom teachers, he contacted me for the first time to ask about some work he was missing in preparation for an assessment. I was surprised and very pleased with this, deciding that it showed a responsibility for his learning and spoke to him about this change in approach when we met to discuss his work. He stated that 'if I do well in some tests in the next few weeks then Mum has said I can go to Glastonbury Festival'. I was dismayed at this as I had spoken to his mother about the importance of cultivating more intrinsic motivation rather than providing motivation from external sources. I asked him whether or not this was the only reason for his behaviour and he stated that 'I am also coming round to the fact that I should give trying another go'. As pleasing as this last statement sounds, perhaps indicating that there is intrinsic motivation present as well, I cannot be sure as to whether he was saying this to appease the situation as he may have sensed that I was disappointed.

CS4's view of intelligence in the first interview was that 'you can get more intelligent', something that his responses to the growth mindset questionnaire also showed. By the end of the second interview he stated that 'I don't believe in intelligence; all people are the same it just depends on whether they work hard or not'. He believed that his 'motivation for academic work has stayed the same', a view upheld by 44.4% of his teachers however, 55.6% disagreed with him and believed he was now more motivated to engage during academic study, with comments highlighting 'a better attitude to work', 'remaining on task for longer periods', 'less disrupting in class' and the 'production of more written work'.

66.6% of his teachers believed that he had positively changed his general approach to lessons with 33.3% feeling that there had been no change. Furthermore, 55.6% of staff had noticed an increase in his effort with 44.4% noticing no change. Comments included that 'he is less confrontational', 'more willing to engage and has been far more focussed', 'he sticks to the task more readily now', has 'improved his attitude', 'works more effectively on his own' and 'produces more more work'.

All students stated improvements in confidence since the beginning of the study and there is evidence from observations of increased positivity and less anxiety that suggests self-esteem has increased, especially with CS1, 2 and 3.

All students except CS4 also perceived an increase in intrinsic motivation; such an increase would be typical of the development of a more incremental mindset (Dweck, 2006). The fact that CS4 felt his motivation had stayed the same could well be down to the extrinsic motivation (Glastonbury tickets) provided by his mother. Extrinsic motivation has been found to be more short term in its effects than intrinsic motivation (Covington, 2000), as well as leading to a reduction in learning quality and higher order thinking (Ryan and Deci, 2000; Pink, 2009). Providing external reward was a strategy that had been adopted regularly by CS4's mother in the past and was sought out by CS4 himself. This was exemplified by the fact he was calling home during that time to inform his mother of any pleasing results, findings that would correlate to evidence from Black and Wiliam (1998a) in relation to the desire for extrinsic rewards. The increased intrinsic motivation in CS1, 2 and 3 could well see these individuals show motivation over a longer time as well as engage in higher quality learning and a tendency to operate more effectively with higher order thinking (Galloway et al., 2004; Covington, 2000; Deci and Ryan, 1985; Deci and Ryan, 2000; Pink, 2009).

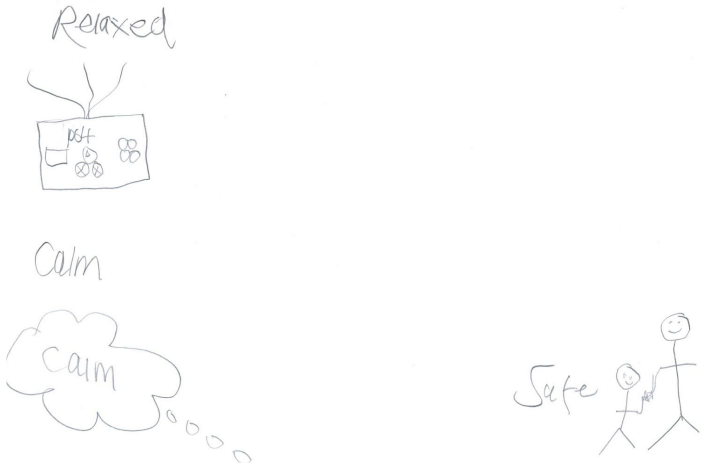
At times during the study all students spoke of comparison to others during their first interviews, something that Yeager and Dweck (2012) found attributable to a lack of social resilience and a sign of internalised entity theory. However, further difference between the students lies in CS1's inclusion of ego comparison within his concept of intelligence, something that no other case study eluded to, and has been found as symptomatic of an entity mindset in numerous studies (Dweck 2006, 2007, 2012).

CS3 seemed to have the lowest confidence and self-esteem of any of the case studies which seems, among other things, to be due to unsuccessful previous experiences especially surrounding writing in a classroom environment. With

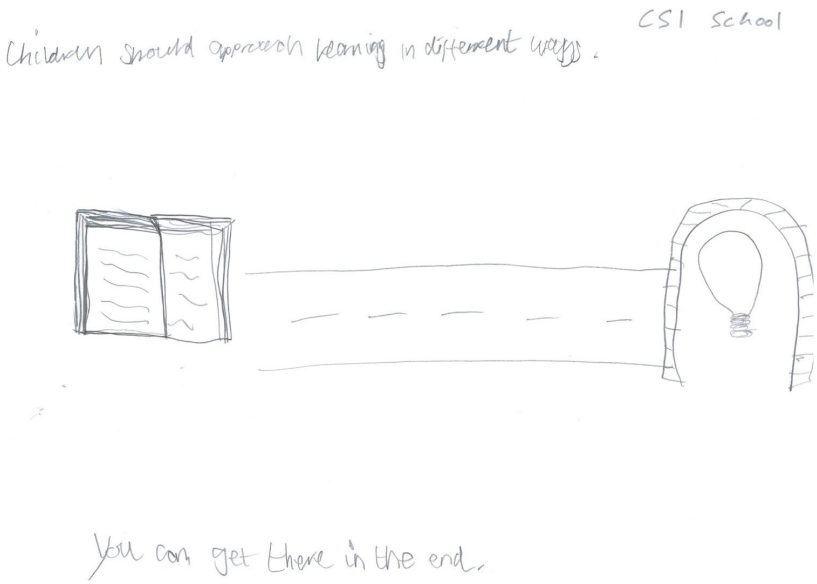
some studies finding that the achievement of goals can determine future behaviour (Ames, 1987; Dweck and Leggett, 1988; Dweck and Elliott 1983) this is perhaps unsurprising and suggests that perceived failure led to a withdrawal of effort and an adoption of learned helplessness (Dweck, 2000). For CS3 the withdrawal of effort could have been due to attributing his failure to his own abilities as exemplified by his comments in the first interview and would explain why he had withdrawn his effort levels (Grant and Dweck, 2003).

View of school:

CS1's views of school did not seem to change; he enjoyed school and, 'so long as there is some balance between work and social [is] quite happy to be in school and finds it fun'. His drawings and photographs seemed to reflect this notion and reflected his perceptions of self, describing school as 'relaxed', 'safe' and 'calm'.



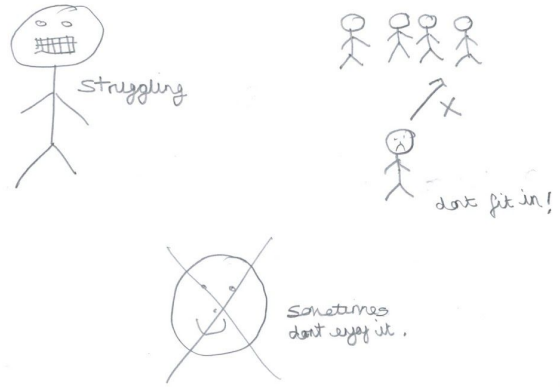
In the drawing (below) at the end of the intervention new annotations read 'children should approach learning in different ways' and 'you can get there in the end'



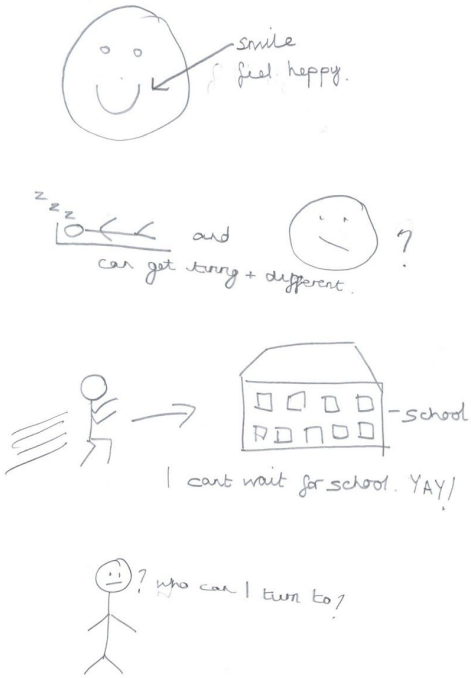
This perhaps reflected the different ways in which he perceived learning now, the awareness of different strategies to use and that perseverance can pay off.

CS2 viewed his own feeling as 'varied' during the first interview and, with a slight caution to his voice, stated that 'school can be a happy place, yes, school is good'. During the second interview he stated that school was 'OK. It can be difficult, but if you keep going and persevere then it is fine'. I was interested to note the use of his language here in relation to the word 'persevere' and the phrase 'keep going'; when asked, he did not know where he had picked these words up from. At the end of the second interview CS2 added that 'work has got harder because I have got more into it; I am learning I need to put more effort in and persevere more'.

His pictures and annotations before the intervention showed a positive perception of school although he 'struggled' and sometimes 'didn't enjoy it'.

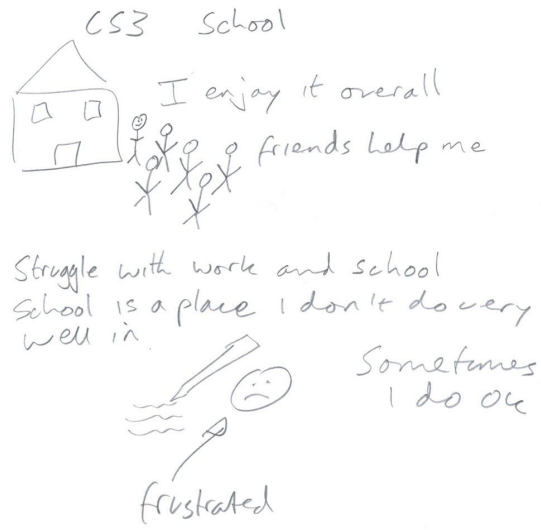


By the time he completed the drawings again they showed that 'I feel happy about school...but it can get tiring and difficult'. There were new annotations in the second picture such as 'I can't wait for school' and 'yay!' which suggested an improved perception of school as a place to be.

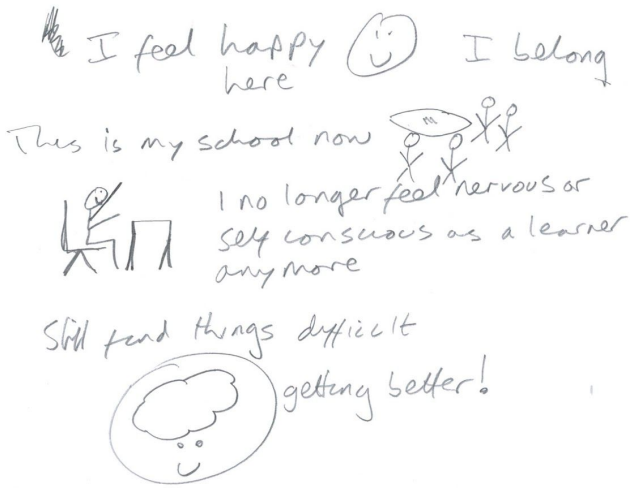


There were also comments that highlighted the worry experienced by adolescents over social perception as described in Eccles and Barber (1999), as well as the need for social resilience (Dweck and Yeager, 2012). This was inferred from annotations such as 'I don't fit in' and 'who can I turn to' next to a picture of a neutral, if not slightly worried, human face.

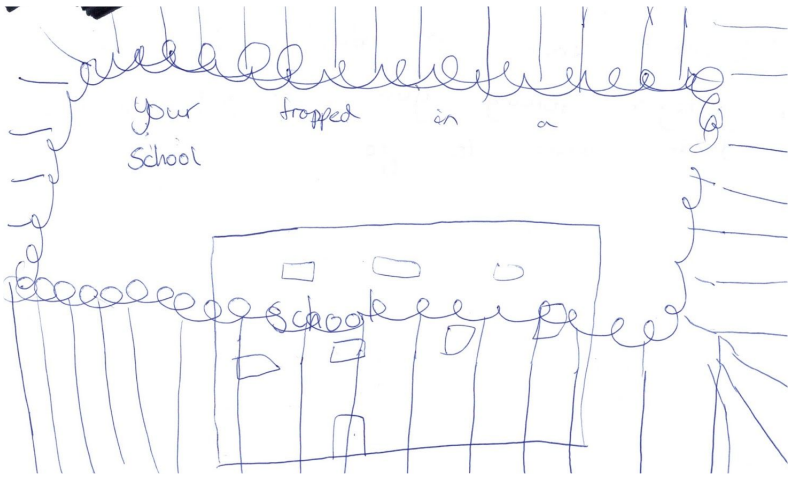
CS3's view of school was generally positive, typified by the statement 'I enjoy it'. However, at the time of the first interview he was struggling to find satisfaction with the academic side of school life.



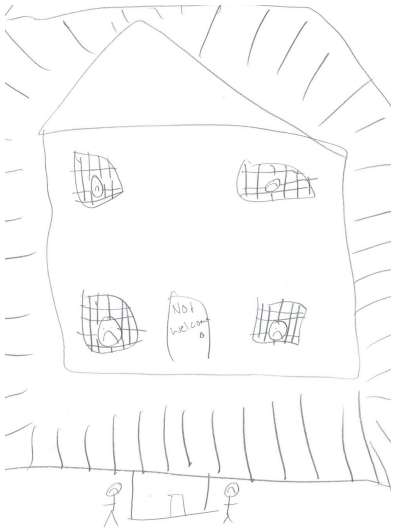
By the time of the second interview his feelings about academic work appeared to have shifted and he was in a much more buoyant mood in the interview. He still enjoyed school but 'experienced less frustration'. His photo at the end of the intervention was of achievement he had in sport which the school had publicly celebrated. This had apparently made him feel motivated and valued by the school, strengthening his feelings of belonging and relatedness (Ryan and Deci, 2000) perhaps due to the perception that he is a 'contributing member of a social group' (Galloway et al., 2004: 90). This is an important finding and has perhaps contributed to his increased levels of motivation overall. Furthermore, on his second drawing (below) one of his annotations described it as 'my school now' as well as stating that 'I no longer feel nervous or self-conscious as a learner anymore'.



CS4's view of school was that it was 'boring, you do the same thing every day, walk into lessons then walk out and you have to do what they [the teachers] tell you to do'. During the second interview he also described school as boring and that his opinion had not changed since the first interview. His pictures also showed this with a drawing from before the intervention showing the school represented as a prison that kept him trapped from the outside world.



An annotation after the intervention (below) read 'not welcome' on the front door of the school building.



This showed an apparent disparity between the feelings and experiences of CS3 and CS2, who described their feelings of recognition, belonging and the helpful environment.

Challenge:

CS1 stated that he liked being challenged 'most of the time' but that when he found things difficult he 'becomes quiet'. Following the intervention he stated that he 'enjoyed challenge', although wasn't sure whether this had changed or not since the first interview. The diary from his parents and the interview with his mother painted a slightly different picture, alluding to the fact that CS1 'asked for help more frequently[...]tackled more subjects that he has found difficult independently' and, in relation to a set of recent assessments 'revised independently which he has not done before'.

Feedback from teacher observation showed that 85.7% felt he had changed positively in his response to challenge with 14.3% stating there had been no change. Comments from staff who felt things had improved included seeing 'an increased focus during difficult work', being ' less likely to ask for help immediately', 'asking for extension material', being 'more prepared to puzzle things out for himself' and 'is now less anxious when he doesn't get the best mark possible [or is as good as student X!!]'. This also suggests that CS1 was setting himself goals that were more

orientated to learning than performance and, as a result, was less ego orientated (Yeager and Dweck, 2012).

In the first interview CS2 commented that 'challenge is good; getting out of your comfort zone is good [pause; CS2 looked down at the floor and speaks more quietly] although sometimes I am hesitant'. When asked why he is 'hesitant sometimes' he responded 'because if I get it wrong then I would get embarrassed'. I perceived from this that his knowledge of the benefits of challenge was present although he was concerned of the perception of others (Brown et al., 1994; Eccles and Barber, 1999).

During the second interview he stated that 'sometimes it is easy to give up but keeping going is good', also adding that 'asking for help is good'; something that the annotations on his drawings also supported. I asked about how he feels towards getting things wrong and he responded 'if I get stuff wrong then I don't get as embarrassed any more'. He also stated that 'I feel better about myself', suggesting that there had been an increase in self esteem typical of an more incremental approach (Lawrence, 2006; Covington, 1984). This improvement in his approach to challenging work was supported by 57.1% of his teachers including comments such as 'I have noticed him sustaining his effort throughout a range of tasks', 'he kept going on things he has previously given up on' and 'has asked more questions more frequently'; 42.9% believed there had been no change.

CS3 stated that when challenged academically he 'falls to pieces'. This was a phrase to be repeated several times during the first interview and, as it went on, he became more and more uneasy about reflecting on himself as a learner. Towards the latter end of the first interview he stated that, when challenged 'I feel uptight and am afraid of failing...the thought that I can't do it demotivates me' suggesting the adoption of a 'helpless pattern' (Dweck 2000).

By the time of the second interview he stated that 'I put more effort in now', Something that his father noticed and wrote down in four diary entries supporting

the fact that his effort may be increasing by providing examples of increased time spent working, more questions and the re-drafting of work. 58.3% of teachers perceived that he had improved his willingness to embrace challenge with 41.7% of the opinion that there had been no change. Comments from staff included the fact that they felt he was now 'acting on feedback more often' (three separate comments), and was 'more willing to talk about things he found difficult' (two comments).

During the first interview CS4 stated that he 'doesn't deal with challenge very well'. During the second interview he suggested that this had changed stating 'I work harder now when I find things difficult'. However, most teachers did not feel the same way with 66.7% perceiving that there had been no change and 33.3% of the opinion that he had improved his willingness to embrace challenge.

During the interview with his mother she 'wasn't sure' whether his approach to challenge had changed or not. I noted in my own diary whether, due to the 'random manner' in which she went about working on this with her son, she was actually asking questions about challenge and engaging him about the behaviours as much as she could have done.

The feeling of all students that they had improved their approach to challenge is consistent with the adoption of a growth mindset and also of receiving the process-focussed praise (Dweck and Mueller, 1998; Haimovitz and Henderlong, 2011) that the parents were providing. The only person for whom there was a majority of teachers who felt he had not improved his approach to challenge was CS4. This may be down to the more 'random' way in which his mother implemented the intervention, which included 'conversations in the car' and 'not really thinking about how to engage him with it strategically'. She was also absent for periods of time due to work reasons, spending one month out of the six abroad and numerous days during the week away from home. When his mother was away it left CS4 with his stepfather who I never met during the research period, furthermore, CS4's mother commented on how conversation was proving difficult

between CS4 and his stepfather. I imagine the periods of time when the mother was absent did not help support the possible effects of the intervention. The extrinsic motivation that CS4's mother provided, as described above, may also have had an effect on the degree to which CS4 wished to challenge himself.

Failure, risk taking and mistakes:

CS1 described his initial view of failure very positively stating that 'if you find things difficult then it shows you are improving'. During the second interview CS1 asked whether you can actually ever fail at something: 'do you really ever fail? I mean failure is learning and learning is good' [serious demeanour throughout]. For me, as an interpretivist researcher his body language and tone of voice suggested that this was an enhanced feeling from the previous conversation which was, in itself, a positive one. However, he did not perceive that his view of failure had changed; he also did not feel he was taking any more risks than he was previously.

The diary from his mother highlighted her surprise to a particular event in relation to auditioning for a Drama performance: 'CS1 said 'I'm just going to go for it, I know it's a main part but I'm just going to go for it!' I hadn't seen that attitude from him before, he always seemed a little concerned about what others might think'. Feedback from teacher observation showed that 66.7% felt he was taking more risks academically with 33.3% of the opinion that there had been no change. 71.4% of his teachers thought that he was more willing to make mistakes now with 28.6% feeling there had been no change. Those of the opinion that these behaviours had become more frequent stated that he was 'asking more questions', 'volunteering more answers', 'having a go at more often' and 'less easily dissuaded to continue by failure'. This was supported in the second interview when CS1 stated that he 'enjoyed making mistakes more now', a comment which correlates to that from the mother's diary entry.

CS2's view of mistakes from the first interview was positive, 'they can benefit someone more than success; they are proof you are trying'. When asked whether

or not he was afraid of making them he stated 'not really, although some mistakes have big consequences such as failing exams'. When asked the same questions in the second interview the student stated that 'failure is good, you can learn from it, but making the same mistakes isn't so good so it is also important to think about past mistakes', adding 'I feel I am happier making them now [mistakes] I don't take them as personally'. He also stated that 'I have a go at things more often now, even if I don't know that I am going to be right'.

Feedback from his teachers showed that a majority (57.1%) felt he had increased the amount of risks he was taking, with 42.9% perceiving there had been no change. His mother thought that he had taken more risks and noted several instances within her diary at home. However, 57.1% of his teachers felt that there had been no change with the way in which he was prepared to make mistakes with 42.9% noticing an improvement. Those of the opinion that these behaviours had become more frequent stated that he was 'being more inquisitive in class', 'putting his hand up more often', 'having a go' and 'was making more mistakes'. His mother felt he had increased his risk taking and approach to failure noting that 'he would start something without asking for help as frequently' and when asked about mistakes in conversation 'he stated that he was proud of making them'.

CS3's first interview highlighted that he was afraid of failing. As a result he 'sometimes' took risks; bad marks 'made me doubt myself' and means that 'I am not good enough, it means I am annoyed, I feel I am not good enough'. CS3 felt embarrassed to get help, that 'asking for help shows I am not good enough' while any result of a test 'gives me a label'. As previously stated this clearly correlates with literature discussing the changes during, and challenges of, adolescence (Eccles and Barber, 1999; Lerner and Steinberg, 2009) as well as being a reflection of entity theory belief (Yeager and Dweck, 2012).

During the second interview CS3 stated that 'failure means there can be goals, if there is failure then I need to try harder next time' while also saying that 'I am no longer embarrassed to get help - I will need help if I am doing something difficult'.

This was a clear change to his first response and again highlighted his belief that achievement was possible when his behaviour was altered. When asked about fear of failure he commented that 'ummm I'm not really scared of failure, no. I don't get as anxious any more and won't take getting something wrong as a personal bad if you know what I mean - I'll have more of a crack at things now'. Furthermore his father stated in his interview that his son is 'definitely more willing to make mistakes and to have a go'; he had noticed 'CS3 was not avoiding tasks', was 'handing in prep' and 'spoke of a poor mark as an opportunity'.

Teacher feedback for CS3 showed that they were split 50/50 between believing there had been an improvement with his willingness to take risks and believing there had been no change. When it came to his willingness to make mistakes however 58.3% of teachers perceived there had been an improvement with 41.7% believing there had been no change. Improvements were based on perceiving 'a less guarded approach in lessons', 'less frustration when a mistake was made', 'more answers volunteered' and 'increased leadership in group work'.

During CS4's first interview he said that 'failure [including bad marks] makes me feel like I am really dumb' and that 'I don't take risks, well sometimes I do, but only to see if I am right'. He did seem to recognise the value of mistakes though, commenting that 'they are useful as you can learn from them'. The feeling of being dumb, especially following the application of effort, is something that the literature has found common within those of an entity mindset (Blackwell et al., 2007; Yeager and Dweck 2012).

When interviewed for the second time he commented that 'he does take risks, about the same as last time' however, there was a slight change to the way he perceived what failure means to him when saying that 'I don't mind if I fail and make mistakes; there is nothing wrong with making mistakes they just represent something I haven't learnt'. Furthermore, a bad mark this time around 'just proves I should work harder'; however, he did state that 'I'm not sure that I have been more willing to make mistakes, about the same as last time'.

In general this appeared to be a change to his previous use of language that suggested failure meant he wasn't clever and proved he was dumb. This is also something that his mother mentioned during interview when saying that 'he never says he is dumb anymore, he used to say 'I am so dumb mum' but doesn't say that anymore'. She wasn't sure about the extent to which he had taken risks or was prepared to make mistakes; overall 'I don't think that has changed much'.

Teachers, however, didn't perceive any changes in his behaviour and, indeed, these responses contained the only information within the entire study that pointed towards a negative trend with 66.7% perceiving there had been no change and 33.3% of the opinion that things had got worse. For those who thought his willingness to make mistakes had decreased comments included 'he asks more unnecessary questions before starting something - just have a go I told him' and 'he was becoming more and more concerned about results'. 88.9% stated they they felt he had made no change in the way he was approaching risks with 11.1% stated that they had seen a positive change, 'he was more prepared to try questions he hadn't seen before but only once he had got into it'. The negative results may be due to the fear of not being awarded the Glastonbury tickets if he did fail, and the resultant performance goals used, which removed the focus on learning and the tendency to adopt a more incremental mindset.

All students at some point made comments that concerned how others might perceive them when they made a mistake, something that studies have found to be common in adolescents (Eccles and Barber, 1999). Two students during the first interview mentioned the prospect of having a 'label' as a result of others' perceptions, a finding that is grounded in more recent literature: 'adolescents are increasingly attentive to their social labels[...]and they increasingly believe that those social labels refer to fixed traits' (Yeager and Dweck, 2012: 306). However, there was also a belief in the value of mistakes in creating an opportunity for learning (Naussbaum and Dweck, 2007) as well as an increased tendency to take risks as part of challenging yourself to improve (Dweck, 2000).

Feedback and critique:

CS1 enjoyed receiving feedback 'as it shows what I can do to get better'; he stated during the second interview that this hadn't changed, adding 'if it helps me to improve then I want to know about it'. In the interview with his mother she stated that, during the Easter holidays, her son 'asked for help...which had not happened previously'. Teachers also perceived that there had been an increase in the way he used feedback with 66.7% agreeing there had been a positive change. Comments included that 'he will now respond to more of my comments in his book', 'he asks questions about his feedback' and 'actually acts on feedback now' (two comments). 33.3% of staff perceived no change.

CS2's concept of the value of feedback didn't seem to change from interview one to two, although there was a subtle shift in his language. He stated during the first interview that 'I value feedback, it tells me where I have gone wrong'. During the second interview, when answering the same question, he responded 'yes, I value feedback as it shows me what I can do to improve'. I interpreted the first response as something more passive, looking back at what had gone wrong, whereas the second response concerning improvement was more forward looking and expectant.

71.4% of teachers were of the opinion that CS2 improved his use of feedback, stating that 'he acts on my comments more frequently' (three comments), and 'asks questions about his feedback'. 28.6% of staff felt there was no change. His mother thought he had increased the use of feedback and willingness to receive it asking her to 'please check my work now'.

CS3's feeling towards feedback was positive during the first interview because it 'enabled him to improve', however, feedback usually 'proved that I was not good at it'. By the time of the second interview he commented that it 'is great as it highlights things I can do to get better, things I can control'. Teachers unanimously

thought he had increased the extent to which he used feedback with 100% of his teachers perceiving that there had been a positive change, stating that 'he takes my advice and uses it now', 'he asks questions about my comments' and 'has clearly read them'. This was backed up by the views of his parents who noted observing him 'listening more carefully', 'talking about teachers' comments' and 'asking for our opinion more frequently'.

During the first interview CS4 stated that 'I use feedback in lessons, yeh'. By the end of the second interview he was of the opinion that 'yeh, I don't think that has really changed much, maybe I use it a little more sometimes'. Teacher feedback was divided on the subject with 50% feeling he had improved and 50% feeling that he had made no change. Those that felt he had improved commented on 'an increased willingness to listen to feedback' and that he 'used it more often when re-drafting work'. His mother didn't feel she could comment on this.

Perseverance:

In CS1's initial interview he perceived that he 'perseveres most of the time'. During the second interview he stated that when confronted with difficulty this meant he 'needed to find another way to achieve'; and that he 'had kept going more often'. Feedback from his mother and teachers suggested that he has improved the frequency in which he keeps going when things are difficult. His mother's diary entry stated that 'he has persevered in difficulty to a greater extent', citing several examples during school time and also on the half term and Easter break. Teacher feedback supported the perception that CS1 had improved the extent to which he persevered with 85.7% of teachers of the opinion that things had got better. Comments included the fact that 'he doesn't ask for help as much now, he just keeps going', 'he sticks at work now' and that he 'keeps going through hard study'. 14.3% of staff were of the opinion that there had been no change.

CS2 stated in the first interview that he 'doesn't like giving up but sometimes things are impossible so I have to give up'. During the second interview when asked the

same question he responded that 'when I make a mistake I would keep going, there will be a way to do it eventually'. 57.1% of his teachers agreed that he was now persevering to a greater extent with 42.9% of the opinion that there was no change. Any comments spoke of his 'greater resilience', that he was 'more willing to struggle' and 'sticks at things more often' something that Farrington et al (2012) believed to be best cultivated through mindset strategies.

When things became difficult CS3 stated in his first interview that 'he gets uptight, anxious and falls to pieces[...]sometimes I will give up because I don't think I will be able to do it'. By the time of the second interview he stated that 'I now stick at things for longer as I am more confident that I will be able to do it in the end..a bad mark means I need to work harder'. This was supported by his teachers with 66.7% of staff perceiving that he had improved. Staff noticed that 'he will not give up as easily' (three comments) and that 'he keeps at hard topics for longer'. 33.3% perceived there had been no change. His father commented that 'at the start if he didn't know the answer with his homework then he would just give up; now he keeps going and sticks at it more'.

During the first interview with CS4 he stated that 'if I fail I give up; if I can't do something I give up'; during the second interview he said that when challenged he now 'works harder'. However, this was not confirmed by his mother who stated that 'I don't feel he has persevered any more than previously'. The majority of his teachers thought there had been no change (55.6%), however, 44.4% of staff did feel he was persevering to a greater extent in class; they mentioned that he 'continued to bounce back from failure' and 'was working for longer periods before losing concentration' (two comments).

Growth mindset questionnaire results

Case Study student	Before the intervention	After the intervention
CS1	33	41
CS2	27	39
CS3	22	40
CS4	27	33

All students increased their growth mindset score, totalling a higher mark on Dweck's (2000) Implicit Theories of Intelligence Scale for Children - Self Form. The slightest improvement was seen, perhaps unsurprisingly, by CS4. CS1's score was higher before the intervention than CS2, 3 and 4, all scoring lower, with CS3 having the lowest score. CS2 and CS3 improved their mindset the most on the questionnaire.

Perceived reasons for any changes in mindset:

When asked about any influences over any changes during the course of this calendar year CS1 immediately started talking about his mother stating 'mum has definitely influenced my motivation positively[...]my parents believe in the usefulness of challenging myself, making mistakes and perseverance'. He stated that school hasn't affected him very much, he 'hasn't noticed a difference', it had 'always been a supportive environment'. He had not noticed any changes in the behaviour and language of his parents, something that surprised his mother during the interview, where she cited the changes she had made to the way she interacts with her son.

CS2 stated that 'people helping me out' was the reason for his increase in motivation towards learning however, teachers also noticed CS2 asking for more

help and being more appreciative of it; this appears to be a good example of the environment responding to the individual within it. When asked about who the people who helped him were he stated 'peers and family'; school was not mentioned. He did not notice any changes in his mother's behaviour since the start of the first interview although 'mum has spoken to me about effort, taking risks, having a go and sticking at things this year - she has said I can get better if I do these things and that there have been times in her life that she has regretted because she failed but didn't persevere'.

CS2's mother stated that she had changed the way she communicated with her son since the start of the project. She 'hoped she had made a difference' but thought that was 'down to me to measure'. All she suggested she had done was 'think more about the language she was using, what she was encouraging or praising and how she was making links between controllable behaviours and outcomes - whether positive or negative'. She has also focussed on 'being more subtle and communicating with her son on his terms'; she felt this helped as 'he probably didn't feel I was influencing him on purpose or trying to change his behaviour to suit my wishes alone'. This suggests an understanding of the importance of providing autonomy (Deci and Ryan, 2000) and being stealthy in her approach (Yeager and Walton, 2011).

CS3 commented that mainly his parents, but also the school, had helped him improve to the extent that he feels he has. His drawings and pictures, as already discussed, help to explain the reason that the school has helped. He felt that he had 'noticed a change in the language my parents use at home and they appear a lot more interested in my work which helps me a lot'. 'They talk to me like much more of an adult now, provide me with constructive criticism and congratulate me on my achievements'. 'They have regularly talked to me when I have done my homework at home, I ask them things and then we reflect on how school is going although it doesn't happen all the time; which is nice actually'. 'Both my Mum and Dad have been encouraging me to take on challenges, take risks and not compare my results to others; they have taught me that I am in control'.

CS4 stated that he felt his motivation had 'stayed the same' for the duration of the project. If he had changed since the start of the project he felt this was due to family, first and foremost, followed by peers and then by school. He was quite demotivated to continue our conversation and was not sure how anyone might have influenced him.

What proved most effective during the intervention period:

CS1 stated that 'the improvement I have had comes from my parents suggesting but not forcing me to do anything; I do things my own way and they know that'. This highlights the desire for autonomy thought to be a vital aspect of motivation in individuals (Ryan and Deci, 2000; Deci and Ryan, 1985) and young adolescents (Berzonsky and Adams, 2003; Lerner and Steinberg, 2009).

CS1's mother stated that having an awareness of Dweck's (2012) theory, advice on how to apply it (theoretically and practically) and access to a sounding board (the researcher) when she felt she needed it, enabled her to 'hone the tools to use with my son'. This sentiment was echoed by the other parents who found the design of the intervention helpful. She also felt that involvement in the project had 'enabled her to stay calm...provided support and reduced my own anxiety'. She was 'very process orientated, not discussing results, just about taking risks and putting effort in' she also realised that 'my grown up expectations may not be appropriate for my son'.

She 'kept the framework at hand' and 'looked at it when she was feeling anxious [about her son's achievement] to remind herself of the concepts and language'; she 'used examples of her own experiences' in conversation with her son to role model behaviours, something that CS2's mother also did. She used footage from an individual on Youtube to talk about the 'importance and power of resilience and failures' as part of the slightly more overt approach to discussing mindset theory

(Reienzo et al., 2015). CS1's mother said that this approach brought her further out of 'autopilot parenting' and more towards 'conscious parenting'.

CS2's mother commented on the fact that having more knowledge about the theory and having the framework to help her was very useful. She mentioned that working with me on this 'reduced my anxiety, gave me a focus and reduced my pushiness'. She commented in her diary that her son said she had 'become less annoying', thanked her for her help and talked about his behaviours more freely. The perceived reduction in the anxiety of the mothers of CS2 and CS1 confirms findings from Dweck (1985) and Butler (1992) that setting mastery goals, otherwise known as learning goals (Dweck, 2000), reduce anxiety, embed challenge and promote task involvement (Harackiewicz, 1989; Csikszentmihalyi, 1990). It seems there is evidence within the context of this study to support this for both parents and their children.

CS3's father said 'is was difficult to work with him on his learning at the start'. This may well be due to the challenges of parenting a teenager at a time when roles are often re-aligned (Grolnick et al., 2007; Smetana et al., 2004) and the difficulty of deciding how and when to approach the intervention strategies. They did not push their knowledge of the theories onto their son and embraced the patient, covert coaching model we discussed. Language from the framework was 'used at least three times a week' when they felt it was appropriate.

During the intervention period CS4's mother began by trying to engage him in conversations about his learning however, he responded with 'that reminds me of school'. This seems to show the reasons for wanting the approach to be a stealthy one and to avoid the overt 'extrinsic intrusion' (Elliot and Harackiewicz, 1994: 968) thought to interfere with an adolescent's desire for autonomy. CS4's mother found it hard to engage with the him using the language 'quite randomly' and talking to him 'mainly when chatting in the car'. On reflection she very much appreciated being involved in the project; she was not aware of the theories previously and found them very interesting.

CS1 appeared to be in the strongest position from the start, something that teachers' opinions, the mindset questionnaire and the interview seemed to show. This may be due to his mother already appreciating the benefits of praising process however, it may also be due to the marital situation involved. CS1's parents are the only ones in the study to still be together. CS2 has a single mother and both CS3 and CS4's parents are divorced and living apart. CS3's parents are in an amicable position however, CS4's are not and there has been much tumult in CS4's life so far. The literature suggests divorce is 'likely to impact negatively on children's psychological adjustment'; problems from childhood can 'then be manifested in adolescence' (Storkson et al., 2006:75), something also found within a study by Hetherington (1993).

Sociocultural theory (Vygotsky, 1978) can also help explain the effect that different contexts can have on different individuals. The four case studies are all positioned differently within their frames of activity and, therefore, the mediating effects of the environment will impact them differently.

I feel that the upheaval of the family unit, including re-marriage, a currently tricky relationship with his stepfather and a job that takes his mother away from the family home regularly has severely affected the effect that CS4's mother has been able to have.

Conclusion:

In this project I have investigated how parental engagement can affect the growth mindset of four young adolescent day boys in a co-educational independent boarding school environment.

I investigated the effect that parents can have on their child's 'educational self schema' (Desforges and Abouchaar, 2003) specifically the development of an incremental mindset and the extent to which they 'internalise aspects of parental

values and expectations as they form an image of themselves as a learner' (Dweck, 2012: 51).

My study sought to answer two main research questions:

1. To what extent does parental engagement impact upon growth mindset and academic behaviours within the context of my investigation?
2. What guidelines may be useful for an educational community looking to develop more conscious parenting in relation to mindset theory?

<u>To what extent does parental engagement impact upon growth mindset and academic behaviours within the context of my investigation?</u>

The findings of this project suggest that parental engagement has had a positive effect on the development of growth mindset and academic behaviours in the four case studies, albeit to different extents. Three students seem to have changed their mindset and academic behaviours significantly with one student improving their mindset and behaviours to a lesser extent; I would not be happy to conclude that any findings for CS4 were secure. The study has added weight to earlier work that the possession of incremental theory positively affects academic behaviour (Aronson et al., 2002; Blackwell et al., 2007, Study 2; Good et al., 2003; Yeager and Dweck, 2012) including the use and direction of causal attributions (Hong et al., 1999; Blackwell et al., 2007; Robins and Pals, 2002).

Findings also tentatively point to increases in self-regulatory behaviour (Zimmerman, 1989) including the standards set by various students (Mischel and Liebert, 1966), increases in self-efficacy perceptions (Schunk, 1984; Zimmerman and Ringle, 1981), self-evaluative behaviour (Bandura and Cervone, 1983, 1986) and the desire to seek out information (Zimmerman and Martins-Pons 1986); although, due to a lack of specific evidence concerning these behaviours, no conclusive link can be established.

The study has also highlighted the challenges of parenting an adolescent child and the emotional changes experienced by young adults during such developmental times in their lives. Findings support the idea of the need for autonomy as a source of motivation (Deci and Ryan, 2000) and the significant effect that parents, and parental engagement at school, can have on children (Bouchey and Harter, 2005; Eccles et al., 1993; Bleeker and Jacobs, 2004; Jones and Schneider, 2009; Harris et al., 2009; Hornby, 2011).

From my experience leading the parental engagement process I would recommend the stealthy approach to mindset training (Urdan and Turner, 2005; Rienzo et al., 2015; Yeager and Walton, 2011; Yeager et al., 2013); focussing on a mix of process orientated praise to develop mastery orientation and effective causal attribution (Dweck, 2000; Hong et al., 1999; Blackwell et al., 2007; Robins and pals, 2002; Mueller and Dweck, 1998; Haimovitz and Henderlong, 2011), collaboratively developing learning goals (Dweck, 2000), asking questions to promote metacognition, discussion and reflection (Black and Wiliam, 1998a; Zhang et al., 2010; White and Frederiksen, 2005) while strategically and subtly sharing knowledge about the plasticity of the brain and the malleability of intelligence (Dweck 2012, Paunesku et al., 2015; Rienzo et al., 2015).

The experience with CS4 suggests that progress may be slower with children who are in a home situation that they are finding difficult, when a parent is frequently absent, when there is communication breakdown in the family unit, when extrinsic rewards are offered for academic attainment and when resultant goals are not then orientated around learning. However, in my view this is not a reason to stop parental engagement initiatives or not to try in the first place; we must champion all children and work together as a community to support the improvement of the culture around the child.

From my own position as an interpretive researcher, caution should be taken when generalising these findings to the broader field of independent education, and indeed educational contexts more generally. However, I do feel that my research

implies that schools could do more to engage with parents rather than involve them, to educate them about becoming even better parents, and become more knowledgeable about how to do so effectively.

Guidelines which may be useful for an educational community looking to develop more conscious parenting in relation to mindset theory.

As a result of this study there are experiences, concepts and practical strategies that both schools and parents may find useful to learn from when engaging parents with education:

For schools:

- Parents must get the message that they matter.
- Involvement and engagement are important if the effects of parents are to be maximised (Harris and Goodhall, 2007).
- Those who are hardest to reach often see the school as hard to reach (Harris et al., 2009).
- Parenting it is the toughest job in the world. Dylan Wiliam (2016) states that all teachers need to 'improve, not because they are not good enough, but because they can get even better' (p.239); substitute the word 'teachers' for 'parents' and you have a very transferable message. Parental engagement is about enabling parents to be better than they are already
- Our role as professionals is to share our knowledge of the latest research and collaborate with parents to use this in their parental practise.
- Create opportunities to meet with parents at times that are convenient with them and provide refreshments.
- Share the vision for education at your school with parents.
- Be sure that parental engagement is planned in parallel with staff engagement and the wider school's strategy. It will be most beneficial to the community if both parents and teachers are aware of, and focussed on developing, the same concepts together.

For parents:

- Parents affect the learning, character and life chances of their child to a very large extent.
- Parents' beliefs can shape adolescents' own beliefs of self which influence their performance (Bleeker and Jacobs, 2004; Jones and Schneider, 2009). In the role of a mindset coach this is very important.
- Parents should look at their own beliefs before working with their children on theirs.
- Operate in a subtle and covert way: adolescent autonomy needs to be preserved.
- Experiment with different language, use different synonyms to support your school's educational concepts; using the same words as the school may cause a cautious reaction from the child.
- Be patient; developing intrinsic motivation takes time.
- Speak to your child's school to help confirm the controllable processes that your child should be developing and to engage with them about growth mindset.
- Collaboratively set goals with your child surrounding these controllable behaviours.
- Praise the display of these processes sincerely.
- Create a list of coaching questions and reminders for you to use if you wish and refer to them if necessary.
- Use knowledge of attribution to empower your child and develop their self-esteem; link praise for achievement to the display of process.
- Ask questions to stimulate discussion enabling reflection and develop metacognition.
- Don't force conversation if your child is not ready.
- Role model the processes you are attempting to further cultivate and discuss your experience of them if and when appropriate.
- Learning is supposed to be hard and we learn best through 'desirable difficulties' (Bjork and Bjork, 2011). As such it is a teacher's job to make learning difficult.

- Use the word 'yet' (or something similar) as and when appropriate when your child suggests they cannot do something (Dweck, 2012).
- Involve any relevant theory of brain development in a light touch and accessible manner if and when appropriate.

Further research in this area could involve the following:

- Effective methods for schools to engage whole parental communities.
- A cohort study involving more students, over a longer period of time, including both males and females.
- Studies which investigate whether the effects of parental engagement are affected by the age of the child.
- The extent to which the parents of boarding students can be effectively engaged in their child's learning.
- Could parents be more effective at engaging parents than teachers.
- The extent to which a parent's mindset and their behaviours are changed as a result of coaching their children.

Evaluation

Working together with the parents on this intervention was a new experience for all parties. Some things were lost in translation between us, especially between the mother of CS4 and me which could well have been down to ineffective communication on my part. To improve this situation in the future I would like to have worked with another group of parents as a pilot before the project began to obtain feedback about the effectiveness of my methods. I would also encourage feedback from a colleague who could observe my interactions with parents.

Due to the nature of our busy lives there was also time delays between parents responding to my communication and vice versa. If time allowed I would have wished to meet with the parents more frequently to discuss best practice throughout the intervention period.

I felt that the different methods within this project provided rich data however, greater triangulation through lesson observation by a colleague who did not teach the students may well have provided a more rounded perspective; due to the busy timetables of all involved this was not possible.

Not all teachers answered the questionnaire about the four students. This may have been due to the proximity to the end of term and the associated tiredness and administrative tasks that this brings. If I were to do the study again I would bring the questionnaire forward to allow a greater response time. That said I do feel that the minimum number of staff recorded (seven) for both CS2 and CS4 was sufficient for reliable findings to have been gathered for those individuals. Furthermore, although the reliability of comparison between cases has, to some extent, been tainted by the unequal numbers of responses, the seven staff that responded about CS2 and CS4 also responded for CS1 and CS3. This increases the reliability above what it would have been if this was not the case.

Although I used a critical friend group it may have enhanced my study to engage with such reflection outside of my own school. Experienced colleagues from other schools may have added a useful dynamic to conversations, especially if they had previous experience with parental engagement programmes.

Even though it would have increased the administrative burden on the students it would have been interesting to gauge developments in mindset more frequently throughout the six month period. Meeting with parents more regularly could also have provided the opportunity to explore the causality of the observations in greater depth.

The analysis of the academic behaviours associated with mindset theory could have been enhanced if there was a student questionnaire about these aspects and would have allowed for greater triangulation of perspective within each case study.

Finally it would have perhaps been more effective to video the students during the interviews. In this instance I did not as they did not wish that to happen; however, this could well have increased my understanding of the students' communication and prevented the need for my note taking.

References:

Ames, C. (1987). The enhancement of student motivation.
, , pp.123-148.

Ames, C. (1992). Classrooms: Goals, structures, and student motivation.
, (3), p.261. Available from:
<http://www.unco.edu/cebs/psychology/kevinpugh/motivation_project/resources/ames92.pdf> [Accessed 25 November 2015]

Atkinson, J., W. (1964). An introduction to motivation. Oxford: Van Nostrand

Aronson, J.; Fried, C., B. and Good, C. (2002). Reducing the effects of stereotype threat on African American college students by shaping theories of intelligence.
, (2), pp.113-125. Available from:
<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.411.6221&rep=rep1&type=pdf> [Accessed June 2015]

Bandura, A. (1986).
. Prentice-Hall, Inc.

Bandura, A. (1997). Self-efficacy: The exercise of control. New York: Freeman.

Bandura, A. and Cervone, D. (1983). Self-evaluative and self-efficacy mechanisms governing the motivational effects of goal systems.
, (5), p.1017. Available from:
<http://www.uky.edu/~eushe2/Bandura/Bandura1983JPSP.pdf> [Accessed June 2015]

Bandura, A. and Cervone, D. (1986). Differential engagement of self-reactive influences in cognitive motivation.
, (1), pp.92-113.

Barlow, A. and Humphrey, N. (2012). A natural variation study of engagement and confidence among parents of learners with special educational needs and disabilities (SEND). , (4), pp.447-467.

Berzonsky, M., D. and Adams, G., R. (2003). The Blackwell handbook of adolescence. Malden, MA: Blackwell.

Bjork, E., L. and Bjork, R., A. (2011). Making things hard on yourself, but in a good way: Creating desirable difficulties to enhance learning. , pp.56-64. Available from: <https://teaching.yale-nus.edu.sg/wp-content/uploads/sites/25/2016/02/Making-Things-Hard-on-Yourself-but-in-a-Good-Way-2011.pdf> [Accessed June 2015]

Black, P. and Wiliam, D., (1998). Assessment and classroom learning. , (1), pp.7-74. Available from: <http://www.tandfonline.com/doi/pdf/10.1080/0969595980050102> [Accessed Feburary 2016]

Blackwell, L., S.; Trzesniewski, K., H. and Dweck, C., S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. , (1), pp.246-263. Available from: <http://www.uky.edu/~eushe2/mrg/BlackwellTrzDweck2007.pdf> [Accessed November 2015]

Bleeker, M., M. and Jacobs, J., E. (2004). Achievement in math and science: Do mothers' beliefs matter 12 years later?. , (1), p.97. Available from: <https://www.researchgate.net/profile/Martha_Bleeker/publication/232604569_Achievement_in_Math_and_Science_Do_Mothers'_Beliefs_Matter_12_Years_Later/links/55116a2c0cf29a3bb71dca44.pdf> [Accessed November 2015]

Bouchey, H., A. and Harter, S. (2005). Reflected Appraisals, Academic Self-Perceptions, and Math/Science Performance During Early Adolescence. , (4), p.673. Available from: <http://s3.amazonaws.com/academia.edu.documents/30860667/Bouchey2005.pdf?AWSAccessKeyId=AKIAJ56TQJRTWSMTNPEA&Expires=1473629268&Signature=BBmtwFenHF4NqC9TgPbCE9MdBWA%3D&response-content-disposition=inline%3B%20filename%3DReflected_Appraisals_Academic_Self-Perce.pdf> [Accessed November 2015]

Brewer, W., P. (1974), "There Is No Convincing Evidence for Operant Or Classical Conditioning in Adult Humans," in Weirner, W. and Palermo, D. (eds.). Cognition and the Symbolic Processes, Lawrence Erlbaum, Hillsdale, NJ., 142.

Bus, A, G.; Van Ijzendoorn, M., H. and Pellegrini, A., D. (1995). Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy. , (1), pp.1-21. Available from: <https://www.researchgate.net/profile/Marinus_Van_IJzendoorn/publication/230853169_Joint_book_reading_makes_for_success_in_learning_to_read_A_meta-analysis_on_intergenerational_transmission_of_literacy/links/53f05d6f0cf26b9b7dcdfe58.pdf> [Accessed November 2015]

Butler, R., 1992. What young people want to know when: Effects of mastery and ability goals on interest in different kinds of social comparisons. , (6), p.934.

Carr, M., Claxton, G. (2002). Tracking the development of learning dispositions. In Assessment in Education. Vol 9. No. 1. In The RoutledgeFalmer Reader in Education. (2004). Edited by Daniels, H., and Edwards, A. Routledge: New York.

Casto, G., and Lewis, A., C. (1984). Parent involvement in infant and preschool programmes. P49-56.

Cervone, B., T. and O'Leary, K. (1982). A Conceptual Framework for Parent Involvement. , pp.48-49. Available from: <http://www.ascd.org/ASCD/pdf/journals/ed_lead/el_198211_cervone.pdf> [Accessed 14 November 2015]

Collins, W., A. and Laursen, B., (2004). Changing relationships, changing youth interpersonal contexts of adolescent development. , (1), pp.55-62. Available from: <https://www.researchgate.net/profile/Brett_Laursen/publication/247764383_Changing_Relationships_Changing_YouthInterpersonal_Contexts_of_Adolescent_Development/links/02e7e520f9ecfcb45a000000.pdf> [Accessed 12 November 2015]

Covington, M., V. (1984). The self-worth theory of achievement motivation: Findings and implications. , (pp.5-20.

Covington, M., V. (2000). Goal theory, motivation, and school achievement: An integrative review. , (1), pp.171-200. Available from: <http://www.annualreviews.org/doi/abs/10.1146/annurev.psych.51.1.171?journalCode=psych> [Accessed November 2015]

Covington, M., V and Dray, E. (2002). The developmental course of achievement motivation: a needs based approach, in Wigfield, A and Eccles, J.S Educational Psychology: Development of achievement motivation. USA: Academic Press

Cramm, J., M. and Nieboer, A., P. (2012). Longitudinal study of parents' impact on quality of life of children and young adults with intellectual disabilities. , (1), pp.20-28.

Crandall, V., C. (1969). Sex Differences in expectancy of intellectual and academic reinforcement. In Smith, C., P. Achievement-related motives in children. New York: Russell Sage.

Csikszentmihalyi, M., (1990). Literacy and intrinsic motivation. In , pp.115-140. Availble from: <http://www.jstor.org/stable/20025303?seq=1#page_scan_tab_contents> [Accessed November 2015]

Data Protection Act (1998) [online]. Available from: <http://www.legislation.gov.uk/ukpga/1998/29/pdfs/ukpga_19980029_en.pdf> [Accessed 12 March 2016]

De Charms, R. (1968). Personal causation: The internal affective determinants of behavior. New York: Academic Press.

De Charms, R. (1976). Enhancing motivation: Change in the classroom. New York: Irvington.

De Charms, R. (1984). Motivation enhancement in educational settings. In Ames, R, E. and Ames, C. (eds), Motivation in Education Vol. 1, pp. 275-310. New York: New York Academic Press

Deci, E., L. (1980). The psychology of self-determination. Lexington, MA: D. C. Heath.

Deci, E., L. and Ryan, R., M. (1985). The general causality orientations scale: Self-determination in personality. , (2), pp.109-134. Available from: <https://www.researchgate.net/profile/Richard_Ryan2/publication/222439154_The_General_Causality_Orientations_Scale_Self-Determination_in_Personality/links/02bfe513dd59438952000000.pdf> [Accessed 12 Janurary 2016]

Deci, E., L.; Schawrtz, A., J.; Scheinman, L. and Ryan, R., M. (1981). An instrument to assess adults' orientations towards control vs autonomy with children: Reflections on intrinsic motivation and perceived competence.
pp642-650.

Denzin, N. (1978). Sociological Methods: A Sourcebook. 2nd edn. New York: McGraw-Hill

Desforges, C. and Abouchaar, A. (2003). The impact of parental engagement, parental support and family education on pupil achievement and adjustment. Research report 433: London Department for Education and Skills

Dweck, C., S. (1986). Motivational Processes Affecting Learning.

Dweck, C., S. and Leggett, E., L. (1988). A social-cognitive approach to motivation and personality. , (2), p.256.

Dweck, C., S. (2000). Self-theories. Their Role in Motivation, Personality and Development. New York: Taylor and Francis Group

Douryei, Z. (2001). Teaching and Researching Motivation. New York: Longman

Dweck, C., S. (2006). Mindset: the new psychology of success. Ballentine Books: London.

Dweck, C., S. (2006). Mindset. [Online]. Available from: <http://mindsetonline.com/testyourmindset/step1.php> [Accessed 24 July 2015]

Dweck, C., S. (2007). Boosting achievement with messages that motivate. In
. pp6-10.

Dweck, C., S. and Molden, D., C. (2008). 4 Self-Theories: The Construction of Free Will. , p.44.

Dweck, C. (2012). Mindset: How you can fulfil your potential. UK: Hachette

Eccles, J, S.; Midgley, C.; Wigfield, A.; Buchanan, C, M.; Reuman, D.; Flanagan, C. and MacIver, D. (1993). Development during adolescence: The impact of stage-environment fit on young adolescents' experiences in schools and in families. , (2), p.90. Available from: <https://www.researchgate.net/profile/Jacquelynne_Eccles/publication/232546240_Development_during_adolescence_The_impact_of_stagenvironment_fit_on_young_adolescents'_experiences_in_schools_and_in_families/links/0912f50b4e42e8b8a8000000.pdf> [Accessed 13 November 2015]

Eccles, J., S. and Barber, B., L. (1999). Student council, volunteering, basketball, or marching band what kind of extracurricular involvement matters?. , (1), pp.10-43. Available from: <http://rcgd.isr.umich.edu/garp/articles/eccles99h.pdf> [Accessed 13 November 2015]

Elliott, E., S. and Dweck, C., S. (1983). Goals: an approach to motivation and achievement. , (1), p.5.

Elliot, A., J. and Harackiewicz, J., M. (1994). Goal setting, achievement orientation, and intrinsic motivation: A mediational analysis. , (5), p.968.

Engestrom, Y. (2009). Expansive Learning. Toward an activity-theoretical reconceptualisation. In Contemporary Theories of Learning: Learning theorists in their own words. Illeris, K. Routledge: New York.

Epstein J., L. (2001). School, family and community partnerships. Boulder Co: Westview Press.

Epstein, J., L. and Jansorn, N., R. (2002). School, family, and community. Available from: <http://olms.cte.jhu.edu/olms2/data/ck/file/DevelopingSuccessfulPartnershipPrograms.pdf> [Accessed 14 November 2015]

Fan, X. and Chen, M. (2001). Parental involvement and students' academic achievement: A meta-analysis. , (1), pp.1-22. Available from: <http://files.eric.ed.gov/fulltext/ED430048.pdf> [Accessed 14 November 2015]

Farrington, C., A.; Roderick, M.; Allensworth, E.; Nagaoka, J.; Keyes, T., S.; Johnson, D., W. and Beechum, N., O. (2012).

. Consortium on Chicago School Research. 1313 East 60th Street, Chicago, IL 60637. Available from: <http://files.eric.ed.gov/fulltext/ED542543.pdf> [Accessed 12 March 2016]

Freud, A. (1966). . London: Hogarth Press

Galloway, D., Rogers, C., Armstrong, D., Leo, E., with Jackson, C. (2004). Ways of understanding motivation. In The RoutledgeFalmer Reader in Education. Daniels, H., and Edwards, A. Routledge: New York.

Galloway, G.; Rogers, C.; Armstrong, D. and Leo, E. (1998). Motivating the Difficult to Teach. Longman.

Geertz, C. (1973). (Vol. 5019). Basic books. Available from: <http://web.mit.edu/allanmc/www/geertz.pdf> [Accessed June 24 2016]

Giddens, A. (1976). New Rules of Sociological Method: A Postive Critique of Interpertative Sociologies. London: Hutchinson

Gonzalez, A., R. (2002). Parental involvement: its contribution to high school students' motivation. In pp.132-134.

Good, C., Aronson, J. and Inzlicht, M., 2003. Improving adolescents' standardized test performance: An intervention to reduce the effects of stereotype threat. , (6), pp.645-662. Available from: <http://users.nber.org/~sewp/events/2005.01.14/Bios+Links/Good-rec1-Good_Aronson_&_Inzlicht.pdf> [Accessed June 2016]

Goodall, J. and Vorhaus, J. (2011). Review of best practice in parental engagement, p. 3. Institute of Education: London.

Goodhall, J and Montgomery C. (2014).
399-410. Routledge.

Grant, H. and Dweck, C., S. (2003). Clarifying achievement goals and their impact. , (3), p.541. Available from: https://www.researchgate.net/profile/Heidi_Grant/publication/5995271_Clarifying_Achievement_Goals_and_Their_Impact/links/0c96051afa203385ff000000.pdf [Accessed June 2015]

Grant, L. (2010). Developing the home-school relationship using digital technologies (italics required for the title). [Online] Futurelab. Available from: www.futurelab.org.uk/handbooks. [Accessed 15th November 2015]

Grant K., A. and Ray J., A . (2010). Home school and community collaboration: Culturally responsive family involvements. Los Angeles: Sage

Greenwood, G., E. and Hickman, C., W. (1991). Research and practice in parent involvement: Implications for teacher education. , pp.279-288. Available from: <http://www.jstor.org/stable/1001714?seq=1#page_scan_tab_contents> [Accessed 13 March 2016]

Grolnick, W., S.; Price, C., E.; Beiswenger, K., L. and Sauck, C., C. (2007). Evaluative pressure in mothers: effects of situation, maternal, and child characteristics on autonomy supportive versus controlling behavior. , (4), p.991. Available from: <https://selfdeterminationtheory.org/SDT/documents/2007_GrolnickPriceBeiswengerSauck_DP.pdf> [Accessed 18 January 2016]

Haimovitz, K. and Henderlong Corpus, J. (2011). Effects of person versus process praise on student motivation: Stability and change in emerging adulthood. , (5), pp.595-609.

Harackiewicz, J., M. (1989). Performance evaluation and intrinsic motivation processes: The effects of achievement orientation and rewards. In . pp. 128-137. Springer US.

Harris, A. and Goodhall, J. (2007). Engaging parents in raising achievement: do parents know they matter? A research project commissioned by the Specialist Schools and Academies Trust. Available from: <http://dera.ioe.ac.uk/6639/1/DCSF-RW004.pdf> [Accsessed November 2015]

Harris, A.; Andrew-Power, K. and Goodall, J. (2009). Do parents know they matter? London: Continuum International

Harter, S. (1981). A new self-report scale of intrinsic versus extrinsic orientation in the classroom: motivational and informational components. pp300-312.

Hattie, J. (2009). The black box of tertiary assessment: An impending revolution.

, pp.259-275. Available from: <https://akoaotearoa.ac.nz/download/ng/file/group-4/n3469-the-black-box-of-tertiary-assessment---john-hattiepdf.pdf> [Accsessed November 2015]

Hattie, J. (2012). Visible learning for teachers: Maximizing impact on learning. Routledge.

Hedegaard, M. and Fleer, M. (2013). Play, Learning and Children's Development. New York: Cambridge University Press

Hedegaard, M. (2012). The dynamic aspects in children's learning and development, in Hedegaard, M.; Edwards, A. and Fleer, M. Motives in Children's Development, New York: Cambridge University Press, pp. 9-28

Henderson A., T. Mapp K., L. (2002). A new wave of evidence: The impact of school, family and community connections on student achievement. Austin, TX: Southwest Educational Development Laboratory.

Hester, H. (1989). Start at Home to Improve Home-School Relations. ,
, pp.23-27. Available from: <http://bul.sagepub.com/content/73/513/23.full.pdf+html> [Accessed 14 July 2015]

Hill, N., E. and Chao, R., K. (2009). Families, schools, and the adolescent: Connecting research, policy, and practice. Teachers College Press.

Hidi, S., and Renninger, K., A. (2006). The four-phase model of interest development. pp 111-127.

Hitchcock, G. and Hughes, D. (1995). Research and the teacher: A qualitative introduction to school-based research. Psychology Press.

Hong, Y., Y.; Chiu, C., Y.; Dweck, C., S.; Lin, D., M., S. and Wan, W. (1999). Implicit theories, attributions, and coping: A meaning system approach. , (3), p.588. Available from: <http://www2.psych.ubc.ca/~ihansen/JOBSEARCH/implicittheoriespsychinquiry.pdf> [Accessed Janurary 2016]

Hong, S. and Ho, H., Z. (2005). Direct and Indirect Longitudinal Effects of Parental Involvement on Student Achievement: Second-Order Latent Growth Modeling Across Ethnic Groups. , (1), p.32.

Hoover-Dempsey, K, V.; Walker, J, M.; Jones, K, P. and Reed, R., P. (2002). Teachers involving parents(TIP): results of an in-service teacher education program for enhancing parental involvement. Teaching and Teacher Education.

Hornby, G. (2011). Parental involvement in childhood education: Building effective school-family partnerships. Springer: Science & Business Media.

Hull, C. (1943). Principles of Behaviour. New York: Appleton-Century-Crofts. Available from: <http://s-f-walker.org.uk/pubsebooks/pdfs/Principles%20of%20Behavior%20-%20Clark%20Hull.pdf> [Accessed 19 Febuary 2015]

Innocenti, M., S.; Huh, K., and Boyce, G., C. (1992). Families of children with disabilities: Normative data and other considerations on parenting stress. In pp403-427.

Illeris, K. (2007). How we learn. 3rd ed. Oxford: Routledge

James, W. (1890). The consciousness of self. , . Available from: <http://cosmology.com/Consciousness123.html> [Accessed 21 March 2015]

Jeynes, W, H. (2005). The effects of parental involvement on the academic achievement of African American youth. , pp.260-274.

Jeynes, W, H. (2007). The relationship between parental involvement and urban secondary school student academic achievement a meta-analysis. , (1), pp.82-110. Available from: <http://msan.wceruw.org/documents/resources_for_educators/Relationships/Relation%20Parental%20Involvement%20and%20Secondary%20Studnet%20Achievement.pdf> [Accessed 21 March 2015]

John, O., P. and Robins, R., W. (1994). Accuracy and bias in self-perception: individual differences in self-enhancement and the role of narcissism. , (1), p.206. Available from: <http://www.sakkyndig.com/psykologi/artvit/john1994.pdf> [Accessed March 2016]

Jones, N. and Schneider, B. (2009). The influence of aspirations on educational and occupational outcomes. , pp.392-398.

Lawrence, D. (2006). . 3rd ed. London: Sage

Lerner, R, M. and Steinberg, L. (2009). John Wiley & Sons. Available from: <https://www.researchgate.net/profile/Brett_Laursen/publication/229464381_ParentChild_Relationships_During_Adolescence/links/0c96052458f733942b000000.pdf> [Accessed March 2015]

Lewin, K. (1935). A dynamic theory of personality. New York: McGraw Hill.

Lewin, K.; Dembo, T.; Festinger, L. and Sears, P. (1944). Level of aspiration. In J. McV. Hunt (Ed.). pp. 333-378. New York: Ronald Press.

Lineros, J., V. and Hinojosa, M. (2012). In The National Forum of Teacher Education Journal. Vol 22, No 3.

Locke, E., A. and Latham, G., P. (1990). A theory of goal setting & task performance. Prentice-Hall, Inc.

Lucas, B. (2010) The Impact of parental engagement on learner success. A digest of research for teachers and parents. Journal [electronic], No. 1, pp. 1-8. Available from: <http://www.thehampshireschoolchelsea.co.uk/userfiles/files/For%20Parents/Parental%20Engagement/The-Impact-of-Parental-Engagement-on-Learner-Success613583.pdf> [Accessed 15th Novemeber 2015].

Martin, B. (1975). Parent-child relations. In Horowitz, F., D. Review of Child Development Research. Vol 4. Chicago: University of Chicago Press.

Maslow, A., H. (1968). Toward a psychology of being (2nd ed.). New York: Van Nostrand Reinhold.

McClelland, D, C. (1961). The Achieving Society. Free Press, New York

McDonald, L.; Billingham, S.; Conrad, T.; Morgan, A.; O, N. and Payton, E. (1997). Families and schools together (FAST): Integrating community development with clinical strategies. ,
(2), pp.140-155.

McNiff, J. and Whitehead, J. (2011). All you need to know about action research. 2nd ed. London: Sage

Miner, J, B. (2006). Organizational Behavior 1 : Essential Theories of Motivation and Leadership. Armonk, USA: M.E. Sharpe, Inc.

Mischel, W. and Liebert, R, M. (1966). Effects of discrepancies between observed and imposed reward criteria on their acquisition and transmission.
, (1), p.45.

Moss, V., D; Taylor, M., J., and White, K., R. (1992). Does Research Support Claims About the Benefits of Involving Parents in Early Intervention Programs? In
pp91-125

Mueller, C., M. and Dweck, C., S. (1998). Praise for intelligence can undermine children's motivation and performance.
, (1), p.33. Available from: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.477.4297&rep=rep1&type=pdf> [Accessed November 2015]

Nussbaum, A., D. and Dweck, C., S. (2008). Defensiveness versus remediation: Self-theories and modes of self-esteem maintenance.
, (5), pp.599-612. Available from: <http://disjointedthinking.jeffhughes.ca/wp-content/uploads/2012/10/Nussbaum-Dweck-2008.-Self-theories-and-modes-of-self-esteem-maintenance.pdf> [Accessed November 2015]

Newman, R., S. (2000). Social Influences on the development of children's adaptive help seeking: The role of parents, teachers and peers. In
pp.350-404. Available online at <http://www.idealibrary.com.> [Accessed November 2015]

Pajares, F. (1996). Self-efficacy beliefs in academic settings. In pp.543-578

Paunesku, D.; Walton, G., M.; Romero, C.; Smith, E., N.; Yeager, D., S. and Dweck, C., S. (2015). Mind-set interventions are a scalable treatment for academic underachievement. , p.0956797615571017. Available from: <https://p3.perts.net/static/documents/paunesku_2015.pdf> [Accessed November 2015]

Pavlov, I., P. (1927). Conditioned Reflexes. Oxford University Press.

Perumal, D. Motivational theories and implications for teaching and learning. In the biosciences in
Spring 2009: Cheltenham.

Petty, G. (2009) Evidence Based Teaching, A practical approach, 2nd edition. Nelson Thornes LTD:

Phares, E, J. (1976). Locus of control in personality. Morristown, NJ: General Learning Press.

Pink, D., H. (2009) Drive: The surprising truth about what motivates us. New York: Riverhead Trade

Rescorla, R. (1987). A Pavlovian analysis of goal-orientated behavior. pp.119-129.

Rienzo, C.; Rolfe, H. and Wilkinson, D. (2015). Changing Mindsets. Available from: <https://v1.educationendowmentfoundation.org.uk/uploads/pdf/Changing_Mindsets.pdf> [Accessed June 2016]

Robins, R., W. and Pals, J., L. (2002). Implicit self-theories in the academic domain: Implications for goal orientation, attributions, affect, and self-esteem change. , (4), pp.313-336.

Rosenzweig, C., (2001). A Meta-Analysis of Parenting and School Success: The Role of Parents in Promoting Students' Academic Performance. Available from: <http://files.eric.ed.gov/fulltext/ED452232.pdf> [Accessed 28 November 2015]

Rotter, J, B. (1966). Generalized expectancies for internal versus external control of reinforcement. , (1), p.1. Available from: <http://www.soc.iastate.edu/Sapp/soc512Rotter.pdf> [Accessed 28 November 2015]

Rumberger, R., W., R.; Ghatak, G.; Poulos, P., L. and Dornbusch, S., M. (1990). Family influences on dropout behaviour in one california high school. In pp.283-299.

Ryan, R., M. and Grolnick, W., S. (1986).

Ryan, M., R. and Deci E., L. (2000). In

Schunk, D., H.; Meece, J., L and Pintrich, P., R. (2008). Motivation in education: Theory, research, and applications (3rd ed.). Upper Saddle River, NJ: Pearson Education.

Schunk, D., H. (1995). Self-efficacy, motivation, and performance.

Schunk, D., H.; Meece, J., L. and Pintrich, P., R. (2008). Motivation in education: Theory, research, and applications(3rd ed.). Upper Saddle River, NJ: Pearson Education.

Schunk, D., H. (2008). Attributions as motivators of self-regulated learning. In Schunk, D. H and Zimmerman, B., J. Motivation and self-regulated learning: Theory, research and applications. pp.245-266. New York: Taylor and Francis.

Schunk, D.; Meece, J. and Pintrich, P. (2014). Motivation in Education: Theory, Research and Application. Fourth Edition. Pearson.

Scott, S.; Sylva, K.; Doolan, M.; Price, J.; Jacobs, J. and Crook, C. (2010). Randomised controlled trial of parent groups for child antisocial behaviour targeting multiple risk factors: the SPOKES project. . Jan 2010; 51(1):48-57.

Seginer, R. (2006). Parents' educational involvement: A developmental ecology perspective. , (1), pp.1-48. Available from: <https://www.researchgate.net/profile/Rachel_Seginer2/publication/248942466_Parents'_Educational_Involvement_A_Developmental_Ecology_Perspective/links/559e684308ae99dba5989168.pdf> [Accessed 15 November 2015]

Skinner, B., F. (1953). . USA: Simon and Schuster.

Smetana, J., G.; Campione-Barr, N. and Daddis, C. (2004). Longitudinal development of family decision making: Defining healthy behavioral autonomy for middle-class African American adolescents. , (5), pp.1418-1434. Available from: <https://www.researchgate.net/profile/Nicole_Campione-Barr/publication/8344336_Longitudinal_Development_of_Family_Decision_Making_Defining_Healthy_Behavioral_Autonomy_for_Middle-Class_African_American_Adolescents/links/09e41505b59b6641c0000000.pdf> [Accessed 18 Feburary 2016]

Steinberg, L. and Silk, J., S. (2002). Parenting adolescents. , , pp.103-133. Available from: <http://dlia.ir/Scientific/e_book/Social_Sciences/The_Family_Marriage_Women/HQ_755.7_759.92_Parents_Parenthood_/004568.pdf#page=144> [Accessed 19 January 2016]

Thomas, G. (2009). How to do your Research Project. London: Sage

Thomas, G. (2013). How to do your Research Project. 3rd ed. London: Sage

Thorndike, E., L. (1913). (Vol. 2). Teachers College, Columbia University.

Tolman, E., C. and Honzik, C., H. (1930). Introduction and removal of reward, and maze performance in rats. University of California Publications in Psychology, 4, 257-275.

Tolman, E., C.; Hall, C., S. and Bretnall, E., P. (1932). A disproof of the law of effect and a substitution of the laws of emphasis, motivation and disruption. , (6), p.601.

Urdan, T. and Turner, J., C. (2005). Competence motivation in the classroom. , pp.297-317.

Urdan, T.; Soleck, M. and Schoenfelder, E. (2007). Students' perceptions of family influences on their academic motivation: A qualitative analysis. In

Van Steensel, R.; McElvany, N.; Kurvers, J. and Herppich, S. (2011). How effective are family literacy programs? Results of a meta-analysis. , (1), pp.69-96.

Vygotsky, L. (1978). Interaction between learning and development. In Mind and Society. Cambridge, MA: Harvard University Press.

Weiner, B. (1992). Human Motivation: Metphors, Theories and Research. London: Sage Publications.

Weiner, B. (1988). Attribution theory and attributional therapy: some theoretical observations and suggestions. In
pp93-104.

Wells, G. and Claxton, G. (2002). Sociocultural perspectives on the future of education. Learning for Life in the 21st Century. Oxford: Blackwell

Wenger, E. (2009). A Social Theory of Learning. In Contemporary Theories of Learning: Learning theorists...in their own words. Illeris, K. Routledge: New York

White, R., W. (1959). Motivation reconsidered: The concept of competence. Psychologicial Review, 66, 297-333.

White, B. and Frederiksen, J. (2005). A theoretical framework and approach for fostering metacognitive development. , (4), pp.211-223. Available from: <https://www.researchgate.net/profile/Barbara_White5/publication/247522719_A_Theoretical_Framework_and_Approach_for_Fostering_Metacognitive_Development/links/0a85e52fd5894959db000000.pdf> [Accessed November 2015]

Wigfield, A. (1983). Students' perceptions of their parents' beliefs concerning their academic competence. Paper presented at the Society for Research in Child Development, Detroit. WEB ADDRESS NEEDED

Wiliam, D. (2016) Leadership [for] Teacher Learning. Creating a culture where all teachers improve so that all students succeed. USA: Learning Sciences International.

Willingham, D., B. (2007). Cognition: The thinking animal. 3rd ed. New York: Prentice Hall.

Writing HTML. Parental Involvement (2015) [Online] Educational Endowment Foundation (EEF). Available from: <https://educationendowmentfoundation.org.uk/evidence/teaching-learning-toolkit/parental-involvement> [Accessed November 2015]

Yeager, D., S. and Walton, G., M. (2011). Social-psychological interventions in education They're not magic. , (2), pp.267-301. Available from: <http://schd.ws/hosted_files/dpyou2014/2a/GM.3.Social.Psychological.Interventions.Education.pdf> [Accessed 5 November 2015]

Yeager, D., S. and Dweck, C., S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. , (4), pp.302-314. Available from: <http://www.gradnation.org/sites/default/files/Midsets%20that%20Promote%20Resilience%20Yeager%20Dweck.pdf> [Accessed 5 November 2015]

Yeager, D.; Walton, G. and Cohen, G., L. (2013). Addressing achievement gaps with psychological interventions. , (5), pp.62-65. Available from: <http://webshares.northseattle.edu/tlc/PDF/YeagerWaltonCohen_2013.pdf> [Accessed 10 Janurary 2016]

Zimmerman, B., J. and Ringle, J. (1981). Effects of model persistence and statements of confidence on children's self-efficacy and problem solving. , (4), p.485.

Zimmerman, B., J. and Pons, M., M. (1986). Development of a structured interview for assessing student use of self-regulated learning strategies. , (4), pp.614-628. Available from: <https://www.researchgate.net/profile/Manuel_Martinez-Pons/publication/233896774_Development_of_a_structured_interview_for_assessing_student_use_of_self-regulated_learning_strategies/links/00b4953caef487a20e000000.pdf> [Accessed 10 Janurary 2016]

Zimmerman, B., J. (1989). A social cognitive view of self-regulated academic learning. , (3), p.329. Available from: <http://anitacrawley.net/Articles/ZimmermanSocCog.pdf> [Accessed 23 Janurary 2015]

Appendix 1

UNIVERSITY OF OXFORD
DEPARTMENT OF EDUCATION

15 Norham Gardens, Oxford OX2 6PY
Tel: +44(0)1865 274024 Fax: +44(0)1865 274027
general.enquiries@education.ox.ac.uk www.education.ox.ac.uk

Director Professor Ernesto Macaro

15th December 2015

Mrs.....
Headmistress

Dear.....,

I am writing to enquire about conducting research in school this academic year. As you know, I am studying for the Master's in Learning and Teaching at Oxford University, supervised by Dr Gill Boag-Munroe. In my final research project, 'Harnessing parent power: To what extent can parental engagement enhance the development of growth mindset in secondary school children?', I will explore an aspect of secondary education that has remained relatively removed from action research and education focus: actually engaging parents to extend their child's learning rather than just involving them.

The research will take place with four Year 9 students and their parents; the students have been recommended to me by their tutors. I will be investigating how parents can be engaged as an intervention to improve the motivation and engagement of the learner within their own education. We will be focussed on

helping the parents to grow the growth mind-set of their children and, in turn, enhance the concept they have of their own intelligence, the way they embrace failure, accept challenge and learn from others' success. A number of staff have shown interest in collaborating with me on this via observations of the students within their own lessons.

By participating in the research, the school would be contributing to a project that will deepen the school's understanding of parental engagement, and so contribute towards developing ways of improving growth mind-set of other students in the school in the future. It will also contribute to education more widely within the UK, abroad and with our strategic partners.

I hope to conduct this research between 06/01/16 and 06/06/16. I would conduct a qualitative approach to this study which, briefly, would involve: logbooks, questionnaires, interviews, analysis of students' drawings and photos that they have taken, and classroom observations.

Oxford University has strict ethical procedures on conducting ethical research with teachers and young people, consistent with current British Educational Research Association guidelines. As practitioner research however, the University recognises that schools have the highest ethical standards in any event. Therefore, only your consent is necessary, and not that of parents. Throughout the research, students, parents and other teachers will be able to refuse to participate in any research activities at any time.

All participants, including students, parents, teachers and the school, would be made anonymous in all research reports. The data collected would be kept strictly confidential, available only to my supervisor and myself, and not used other than specified without further consent. All tapes would be destroyed at the end of the research period, and kept in secure conditions until that time.

If you feel that you are happy for me to conduct the study here at school, or need more information about what is involved, please do contact me.

In the meantime I look forward to hearing from you via the attached form.

Best wishes,

Harnessing parent power: To what extent can parental engagement enhance the development of growth mindset in secondary school children?

University of Oxford, Department of Education

[Name of school]

[School address]

[Name of Head]

- We do not wish to participate in this project.
- We would like to find out more about this project.
- We would like to take part in this project.

If you would like further information, please contact me, or my supervisor. If you require clarification of the ethical approval, process please contact Chair of Department of Education Research Ethics Committee, Dr Nigel Fancourt.

Supervisor email: Gill.boag-munroe@education.ox.ac.uk

Chair of Department of Education Research Ethics Committee, Dr Nigel Fancourt
email: nigel.fancourt@education.ox.ac.uk

Please return this form to me.

Thank you for your help.

Appendix 2

Dear all,

As part of my MSc I am writing to see if you would mind being involved in some data gathering. My project is investigating the effect of a particular parenting intervention on the development of different behaviours for learning; it is not an investigation that is looking to evaluate you as a teacher in any way.

Your involvement would include observing the following four individuals [...] during your lessons with them for a six month period; any changes in the following behaviours should be written into a diary and handed to me at the end of that time period:

- Approach to risk taking
- Degree to which they persevere through challenge
- Approach to failure
- Approach to challenge
- Attitude towards feedback
- Effort levels
- Approach towards learning in general

I will also ask you to complete a questionnaire at the end of the research period which will take approximately 10 minutes.

Please respond via email stating whether or not you wish to be involved. There is no expectation that you are involved and you can withdraw from the project at any time.

If you state that you are happy to be part of the investigation I shall ask my PA to arrange a time for us to meet at your convenience and discuss this in greater depth.

Best wishes,

Appendix 3

Harnessing parent power: To what extent can parental engagement enhance the development of growth mindset in secondary school children?

[Name of researcher]
University of Oxford, Department of Education

[Name and address of school]

Dear [parent name]

Having talked to [name of the researcher] about what my involvement would consist of:

- I do not wish to participate in this project.
- I would like to find out more about this project.
- I would like to take part in this project.

If you would like further information, please contact me, or my supervisor. If you require clarification of the ethical approval, process please contact Chair of Department of Education Research Ethics Committee, Dr Nigel Fancourt.

Supervisor email: Gill.boag-munroe@education.ox.ac.uk

Chair of Department of Education Research Ethics Committee, Dr Nigel Fancourt email: nigel.fancourt@education.ox.ac.uk

Please return this form to me and many thanksfor your help.

Appendix 4

Please show how much you agree or disagree with each statement by crossing through the option that corresponds to your opinion.

You have a certain amount of intelligence, and you can't really do much to change it.

- Strongly Agree
- Agree
- Mostly Agree
- Mostly Disagree
- Disagree
- Strongly Disagree

Your intelligence is something about you that you can't change very much.

- Strongly Agree
- Agree
- Mostly Agree
- Mostly Disagree
- Disagree
- Strongly Disagree

No matter who you are, you can significantly change your intelligence level.

- Strongly Agree
- Agree
- Mostly Agree
- Mostly Disagree
- Disagree
- Strongly Disagree

To be honest, you can't really change how intelligent you are.

- Strongly Agree
- Agree
- Mostly Agree
- Mostly Disagree
- Disagree
- Strongly Disagree

You can always substantially change how intelligent you are.

- Strongly Agree
- Agree
- Mostly Agree
- Mostly Disagree
- Disagree
- Strongly Disagree

You can learn new things, but you can't really change your basic intelligence

- Strongly Agree
- Agree
- Mostly Agree
- Mostly Disagree
- Disagree
- Strongly Disagree

No matter how much intelligence you have, you can always change it quite a bit.

- Strongly Agree
- Agree
- Mostly Agree
- Mostly Disagree
- Disagree
- Strongly Disagree

You can change even your basic intelligence level considerably.

- Strongly Agree
- Agree
- Mostly Agree
- Mostly Disagree
- Disagree
- Strongly Disagree

Appendix 5



Growth Mindset

Intelligence can be developed

Leads to a desire to learn and therefore a tendancy to ...

If you hold a Growth Mindset, you believe that intelligence can be developed, that the brain can be grown and strengthened, like a muscle that can be trained. This leads to your desire to improve.

... embrace challenges

And how do you improve?
First you embrace challenges because you know you'll come out stronger on the other side.

... persist in the face of setbacks

Similarly, obstacles or external setbacks do not discourage you. Your self-image is not tied to your success or how you will look to others. Failure is an opportunity to learn and so, whatever happens, you will win.

... see effort as the path to mastery

As a Growth Mindset individual, you see effort as necessary to grow and master useful skills and knowledge; you do not view effort as something useless or to be avoided. You are not turned away by fears that you might make an attempt, or even work hard, and that failure is possible.

... learn from criticism

Criticism and negative feedback are sources of information. That doesn't mean that all criticism is worth integrating or that nothing is ever to be taken personally. As a Growth Mindset individual, you know that you can continue change and improve, so negative feedback is not perceived as being directly about you as a person but rather about the current state of your abilities.

... find lessons and inspiration in the success of others

You see the success of others as sources of inspiration, information opportunities to learn. Growth mindset individuals do not view success as a competitive, zero-sum game with others.

As a result, you reach ever-higher levels of achievement.

All this gives you a greater sense of free will.

As a Growth Mindset individual, you note your improvements and this creates positive feedback loops that encourage you to continue learning and improving.
Most people do not have a 100% Growth Mindset or a 100% Fixed Mindset; most of us have some of both. The good news is that it is possible to change your worldview from Fixed Mindset to Growth Mindset. Carol Dweck's research indicates that both children and adults can be taught to change their mindsets.

GRAPHIC BY NIGEL HOLMES