

A Growth Mindset Approach to Supporting Children Who Experience Anxiety

by

Sheilagh Smyth

Bachelor of Arts, University of British Columbia, 1999

Bachelor of Education, University of British Columbia, 2002

A Project Submitted in Partial Fulfillment  
of the Requirements for the Degree of

MASTER OF EDUCATION

in the area of Early Childhood Education  
Department of Curriculum and Instruction

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University of Victoria

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## **SUPERVISORY COMMITTEE**

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Sheilagh Smyth

Bachelor of Arts, University of British Columbia, 1999

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Dr. Jodi Streelasky, Supervisor

Department of Curriculum & Instruction

Dr. Christopher Filler, Committee Member

## ABSTRACT

Research has demonstrated an increase in the number of Canadian children who experience anxiety (Wadell, Shepherd, Schwartz, & Barican, 2014). Anxiety can create barriers to children's participation in school, academic achievement, development of positive coping skills, social growth, and espousal of a healthy self-view. The goal of this project is to use a growth mindset approach to support children with anxiety by developing children's resilience, self-efficacy, and motivation for learning. The result is a workshop for educators and administrators regarding strategies and resources for implementing a growth mindset intervention in the early years classroom. I draw on current literature to examine how teachers can structure the classroom environment to foster the development of a growth mindset perspective. In addition, I consider how educators can share a growth mindset perspective with parents.

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## Dedication

This master's program has been an opportunity for tremendous professional and personal growth. Thank you to Dr. Jennifer Thom, Dr. Michelle Tannock, Dr. Jodi Streelasky, and Dr. Ruthanne Tobin for your thoughtful and challenging teaching. Thank you to Dr. Jodi Streelasky for supervising this capstone project..

Secondly, I would like to thank the community of learners who embarked on this master's journey with me. This cohort has provided me with many rich discussions, thoughtful comments, and encouragement. In particular, I would like to thank Megan Pomper for her unflagging friendship and support.

Lastly, I would like to thank my family, Ron, Ruby, Jennifer, & Wade for their love and support. To my children, Lucy and James, thank you for demonstrating what perseverance, resilience, and a growth mindset truly look like.

## **Chapter One: Introduction**

In Canadian classrooms, children are experiencing increased levels of anxiety (Wadell, Shepard, Shwartz, & Barican, 2014). Wadell et al. (2014) revealed that, anxiety is the most frequent mental health disorder for Canadian children between the ages of 4 and 17, affecting 3.8% of the student population. Anxiety can have many severe affects on school-aged children: it can impact school attendance, social and friendship bonds, and family life. At school, anxiety can affect body chemistry, to the extent that the brain's ability to process information may be impacted (Sousa & Tomlinson, 2011). Anxiety may also affect a child's self-view because it causes cognitive distortions or errors, which guide how information and events are perceived (Beck, Rush, Shaw, & Emery, 1979).

However, research is increasingly showing that due to the neuroplasticity of the brain, especially in young children, mental schemas can be changed (Sousa & Tomlinson, 2011). Using metacognition, children can reflect on their thinking and examine the impact of their mental schemas. Dweck (2006) identified two types of thinking: a fixed mindset and a growth mindset. Children with a fixed mindset believe intelligence is something individuals are born with and build their self-view around these beliefs (eg., I'm not good at math). In contrast, children with a growth mindset believe intelligence can grow and change through hard work and persistence. These children see difficult academic work as challenging and an opportunity for growth and learning. People with a growth mindset are more persistent and resilient (Yeager & Dweck, 2012). Several studies have shown that teaching children about mindsets and providing time to reflect on mental schemas can be implemented easily and can reap positive benefits in the development of pro-social behaviours, and in producing lasting improvements in school achievement as well (Dweck, 2006; Pawlina & Stanford, 2011; Sousa & Tomlinson, 2011; Yeager & Dweck, 2012). Mindset interventions have also been found to help develop social skills such as coping skills and an improved ability to manage social stressors (Markovic, Rose-Krasnor, & Coplan, 2013). No child's life can be without challenging situations, disappointment, or failure. However, children's resilience to these events is both adaptable and teachable (Dweck, 2006).

## **Rationale**

In my teaching I have observed the social and academic impact of anxiety in my classroom. This year, on the first day of Grade One, four of the children in my class were unable to say goodbye to their parents at the door. Each morning for the first week of school the children were visibly affected by leaving their parents. For example, their bodies appeared tense, they clung to their parent, and the children were unable to engage socially with their peers. The parents described difficult mornings at home, children complaining of physical aches and pains, and difficulty arriving at school on time. One of the children chose not to play with his peers at centers time, preferring to observe the other children from a distance for two weeks, before feeling confident to join social play.

The effects of anxiety continued for some of the children during the day. Several children with anxiety tended toward perfectionistic tendencies, unable to brush off what they perceived as errors. Ritchhart (2015) described a “subtle ripple effect” (p. 57), created by children’s mindsets, which can affect all areas of a child’s life and which may endure into future years. I wondered how learning about the importance of metacognition, of growing one’s brain by becoming aware of helpful mental schemas, such as a growth mindset, might benefit children. I am interested in how aspects of growth mindset learning, such as the importance of risk-taking, trying new activities, and reframing failure, might impact children’s resilience.

## **Theoretical Framework**

Three theoretical works guide this exploration into how a growth mindset approach can be used to help children, especially those with anxiety, develop a positive self-view and embrace challenge and learning. These theories include: growth mindset theory (Dweck, 1999, 2006); meta-cognition (Flavell, 1979, 1983; Schraw, 1998); and, social constructivism (Rogoff, 2003; Vygotsky, 1978).

Growth mindset theory (Dweck, 2006) defined two types of mindsets: a fixed mindset and a growth mindset. A fixed schema believes social and intelligence traits are set at birth. Behaviours associated with a fixed mindset include a desire to avoid failure and challenge, a belief that academic results reflect one’s self-worth, and valuing achievement over effort (Haimovitz, Wormington, Henderlong Corpus, 2011; Mueller & Dweck, 1998; Smiley & Dweck, 1994). In contrast, a growth mindset believes that intelligence and personality traits can

be changed through effort. Dweck (2006) found that a growth mindset increases student motivation for learning, because children see effort as related to achievement.

Students' mindsets can be developed through the classroom environment the teacher creates. Gestures such as greeting children at the door, praising children's effort, and getting to know children individually can create a warm and inviting space (Pawlina & Stanford, 2011). Children who have strong relationships with their teachers feel safe and secure and are ready for learning (Sousa & Tomlinson, 2011). Growth mindsets can also be developed through explicit instruction and teacher modelling (Ritchhart, 2015). For example, teachers can share examples of personal challenges and how these challenges can also be learning opportunities.

The theory of metacognition (Flavell, 1979, 1983) refers to an individual's awareness of his or her own thought processes (thinking about thinking). Flavell divided metacognition into four phenomena: i) metacognitive knowledge, ii) metacognitive experiences, iii) goals, and iv) actions. Metacognitive knowledge can be further categorized into three variables: person, task, and strategy. The person category refers to constructs about the self, for example thoughts regarding one's ability in a subject area. Children acquire beliefs about properties of cognition as related to the individual, which may affect the cognitive enterprises into adulthood (Flavell, 1979). An important aspect of metacognition for young students is regulation of cognition or activities that help children control their learning (Schraw, 1998). Schraw (1998) noted the importance of promoting metacognitive skills to students, as children may possess knowledge and strategies for a task, but give up due to beliefs about intellectual ability and effort.

Social constructivist theory (Rogoff, 2003; Vygotsky, 1978) explains that children will acquire the beliefs, values, and practices of the community. For Vygotsky (1978) children's development occurred on two planes: the social and the psychological. Rogoff (2003) expanded on Vygotsky's theories, arguing that children's development occurs along three frames: the individual child, the community, and the sociocultural context by which the community communicates. Social constructivism recognizes children as active participants in learning: children make sense of their world through their participation in it (Rogoff, 2003). A constructivist view recognizes children's funds of knowledge (Moll, Amanti, Neff, & Gonzalez, 1992) or the skills, strategies, and information children bring to school with them. Social constructivist pedagogy includes a set of principles describing the learning environment (Adams,

2006). These include principles that focus on learning versus performance; the importance of the relationship between teacher and student; and, viewing learners as co-constructors of meaning.

### **Purpose and Significance**

The purpose of this capstone project is to examine the literature on how teachers can support children in developing positive mental schemas through metacognition and reflection of thinking processes. As an increasing number of children enter school with anxiety (Wadell, Shepherd, Shwartz, & Barican, 2014), teachers need means to support children in developing resilience. Research shows that interventions that focus on basic brain neurology to change students' interpretations, and to address underachievement and pro-social behaviours can improve student resilience (Dweck, 2006; Pawlina & Stanford, 2011; Yeager & Dweck, 2012; Yeager et al., 2016). My hope is that this project will address how teachers can positively impact their students' lives and help them form a positive and enduring self-view and a passion for learning.

The following questions will guide the literature review in this capstone project:

- How can a growth mindset learning approach help children form positive self-views?
- How can teachers create a classroom environment that encourages a growth mindset in children?

### **Summary**

In this chapter I have outlined some of the social and academic challenges students with anxiety experience at school. I have also described how students with a fixed mindset may develop a negative bias. However, I have also noted the neuroplasticity of the brain and ability to change one's perceptions. In the following chapter, I examine Dweck's research into mindset theories and resilience in order to examine how children can change their perceptions. I also investigate how Flavell's theory of metacognition can guide children in reflecting on their mental schemas and learning. Vygotsky's theory of social constructivism (1979) provides a framework to examine the role of classroom affect and societal messages in children's construct of self-views. In chapter three I describe how teachers can expose children to the malleability of the brain and help children develop a growth mindset. I also include a presentation for teachers and administrators which draws on the research included in chapter two. In chapter four, I reflect on

what I have learned from the research and address implications for teaching children experiencing anxiety at school.

## **Chapter 2: Literature Review**

### **Introduction**

As previously outlined, children's mindsets have a profound impact on their readiness for academic learning. The theoretical perspectives of growth mindset theory (Dweck, 1999, 2006), metacognition (Flavell, 1979, 1983), and social constructivist theory (Rogoff, 2003; Vygotsky, 1978) frame this project. Through these perspectives I examine how anxiety can cause cognitive distortions and how a growth mindset approach, can help children grow and learn in both their academic and social spheres. I examine the body of literature regarding how teachers can support resilience, self-efficacy, and motivation in the classroom.

### **Expansion of theories**

#### **Growth mindset theory.**

Dweck's (1999, 2006) theory of mindsets explores the relationship between students' thought patterns regarding their social and academic ability and children's self-view. Sousa and Tomlinson (2011) expanded on this view to examine the role of the teacher in working with students to identify means of growth, goal setting, and ways to continue development. This perspective centers on helping children to understand the connection between effort and success (Sousa & Tomlinson, 2011). Because effort is changeable it positions children as agentic in their learning and social development. Furthermore, children with a growth mindset tend to be more resilient and tenacious (Dweck, Walton, & Cohen, 2014). A further implication of growth mindset theory is on children's motivation for learning and the development of an intrinsic pleasure in developing one's skills. This is important to the development of children as self-regulated learners, a core-competency recognized by British-Columbia's new curriculum (British Columbia Ministry of Education, 2016).

#### **Social constructivist theory.**

Social constructivist theory recognizes children as active co-constructors of meaning and knowledge (Adams, 2006). The teacher's role is to scaffold academic and social learning opportunities for children (Adams, 2006). A view of children as agentic reflects changes in education. British-Columbia's curriculum recognizes the competency of self-determination as valuing oneself, one's ideas, and one's accomplishments (British Columbia Ministry of Education, 2016). Rogoff (2003) recognized the social aspect of education. The teacher's role is to assist children through difficult tasks and challenge their current understandings; to recognize

students' difficulties and help them develop strategies to cope with these challenges; and, to help children reflect on the results of their risk-taking and experimentation (Martin, 2004).

### **Metacognitive theory.**

Metacognitive skills, including monitoring, goal-setting, and regulation, are important skills to the development of self-regulation and self-regulated learning (Davis, Levine, Lench, & Quas, 2010; Dinsmore, Alexander, & Loughlin, 2008). When children learn to use metacognition they are able to bring awareness to recognize their emotions, communicate them, and develop strategies to manage their emotions (Fisher, 1998). Teachers can use metacognitive language to facilitate emotional-regulation and model problem solving (Fisher, 1998). Children also need skills to evaluate their thinking in order to see how different patterns of thought benefit or hinder their functioning (Fisher, 1998). Metacognitive skills provide the monitoring and control for children to become self-regulated learners and acquire the “metacognitive knowledge and skills that are hallmarks of self-regulated learning [enabling] students to take charge of their own learning and academic future” (Dent & Koenka, 2015, p. 428).

## **Review Of The Literature**

### **Anxiety and children.**

An inhibited temperament is a precursor to anxiety. Inhibited behaviour is characterised by restricted or inhibited social behaviours, aversion to risk, and shyness (Rapee, Schniering, Hudson, 2009). Pereira, Barros and Mendonca (2012) described the role of negative bias or interpretation of events that does not match actual events (Pereira, Barros, Mendonca, 2012). This has a negative effect on children's thoughts, emotions, and adaptive functioning (Pereira et al., 2012). This is consistent with Dweck's (1999) findings of children with a fixed-mindset's self-views: they become a lens through which children see both themselves and their success at future tasks.

Pereira, Barros and Mendonca (2012) investigated the relationship between cognitive errors and symptoms of anxiety in children. The sample was comprised of 205 children, from 8 to 13 years, from six different schools in Portugal. The participants came from low, medium, and medium-high socio-economic levels. The participants completed Leitenberg, Yost, & Carroll-Wilson's *The Children's Negative Cognitive Error Questionnaire* (as cited in Pereira et al., 2012), a self-report questionnaire developed to assess four types of cognitive errors: catastrophizing, overgeneralization, personalizing, and selective abstraction. The questionnaire

presented a series of vignettes and a negative interpretation of the vignettes. Children were asked to which degree they would interpret the situation in a similar way, using a five-point scale. The participants also completed Muris, Merckelback, Schmidt, & Mayer's *Screen for Child Anxiety Related Emotional Disorders-revised version* (as cited in Pereira et al., 2012) a self-report questionnaire evaluating different dimensions of anxiety disorders in children: separation anxiety disorder, panic disorder, social phobia, school phobia, obsessive-compulsive disorder, and posttraumatic stress disorder. Children rated their frequency of symptoms using a 3-point scale. Results emphasized the importance of cognitive errors in the functioning of anxious children. Furthermore, the study demonstrated a significant increase in cognitive errors for older children, suggesting the patterns become more rigid and difficult to modify over time. The study pointed to the importance of early intervention in addressing anxiety: "it seems important to evaluate these negative cognitive styles early on and to address them in the treatment of anxious children" (Pereira, Barros, Mendonca, 2012, p. 821-822).

#### **The benefits of a growth mindset for young children.**

**Self-efficacy.** Relationship skills, including joining others in play, initiating and maintaining conversation, cooperating, listening, and taking turns are crucial to young children's healthy development (Denham, Basset, Zinsser, & Wyatt, 2014). However, children with fixed mindsets often ascribe social challenges to a lack of personal ability, with damaging impacts to their self-view (Erdley, C. A., Loomis, C. C., Cain, K. M., Dumas-Hines, F., Dweck, C. S., 1997). Erdley, et al. (1997) conducted a study to measure children's responses to social failure. The first study involved 63 fourth and fifth grade students from a small Midwest town in the United States. The sample was mostly Caucasian, with mixed lower and middle socio-economic status. Children completed two questionnaires: one designed to measure children's mindsets and a second to measure children's social confidence. The children were then invited to write a letter in order to apply to a pen pal club. The researcher oriented children toward a learning goal by emphasizing joining the club was an opportunity to practice and develop ways of making friends or toward a performance goal by emphasizing the club as an opportunity to see how good the child was at making friends. The child was then informed that the club was unsure of whether to accept the application or not and the child was invited to write a second letter. The participants were told their second letter had been accepted and were then asked rate their feelings when their first letter was questioned. The children's feelings were measured by asking them to rate their

agreement with the following statements: “(a) Am I a likable person? (b) Am I not so good at making friends? (c) Are we too different? and (d) Did I not try hard enough?” (Erdly et al., 1997). Children with a performance goal orientation were more likely to refuse to write a second letter. Among the children who chose to attempt a second letter, children with a growth mindset wrote longer letters, whereas children with a fixed mindset were more likely to write significantly shorter letters. In addition, children with a growth mindset and a learning goal were more likely to communicate positive feelings toward the letter writing, even after experiencing rejection. Children’s mindsets framed how they responded to rejection: those with a fixed mindset were more likely to attribute the initial failure to a lack of personal social skills.

In a more recent study, Markovic, Rose-Krasnor, & Coplan (2013) continued to note a link between a growth mindset and adaptive social coping skills. The study followed 175 children from 9-13 years of age, from Eastern Ontario, Canada. The participants were mostly Caucasian and half came from families whose parents had completed some college or university. The study used Crozier’s *Children’s Shyness Questionnaire* (as cited in Markovic et al., 2013) which measures: a) self-consciousness and embarrassment and b) sociability; the *Implicit Personality Theory Questionnaire-Revised* (Erdley et al. 1997); and, Causey and Dubow’s *Self-Report Coping Scale* (as cited in Markovic et al, 2013), which measures children’s likelihood of using different coping skills in response to a peer conflict. Shy children were more likely to use internalizing coping and less likely to use approach coping (seeking social-support, problem-solving). In addition, children with a fixed mindset were most likely to use internalized coping. Specifically, shyness was related to lower reported approach coping among girls with a fixed mindset and boys with a growth mindset. Shy girls with a fixed mindset may attribute social stressors to personal attributes (eg. Poor social competence) and may not feel in control of social situations. In contrast shy girls with a growth mindset show little difference in strategy use from their less shy female peers. Markovic, Rose-Krasnor, and Coplan (2013) attributed the link between internalizing and shyness for boys with a growth mindset to a difference in social strategies for boys. For example, victimized boys who reported using social support and problem-solving as strategies for social problems were at increased risk for peer rejection (Kochenerfer-Ladd & Skinner, in Markovic, Rose-Krasnor, & Coplan, 2013).

Dweck and Repucci (1973) measured 40 fifth-grade students responses to failure in order to understand why some children give up and others persist when challenged. The students were

given a series of puzzles to solve; the first set of puzzles were solvable, but the second set were impossible to complete successfully. The researchers discovered that after engaging in the task with the unsolvable puzzle some children's performance deteriorated despite success on the first task. Both groups of children had demonstrated an even puzzle-solving ability at the outset of the study; meaning children's difficulty with the task was attributed to their mindset and not ability. Children were also asked to rate their perception of their abilities after each task (Dweck & Repucci, 1973). Children who experienced a helpless response to failure were more likely to attribute their difficulties to external factors, demonstrating a belief in a lack of personal control over outcomes of events (Dweck & Repucci, 1973).

***Motivation for Learning.*** Smiley and Dweck (1994) studied children's goal orientations following failure. The participants consisted of 78 preschool and kindergarten aged children from middle and upper-class families from Chicago. The children were asked to evaluate their puzzle-solving abilities and were then given a tower-building task. In the second session, children were given three minutes to play with three unsolvable puzzles, followed by one solvable puzzle. The children made self-ratings of their emotions, made predictions about their expectations of future success toward puzzle solving, and answered the question about their puzzle-solving abilities again. Lastly, they were asked to choose another puzzle to play with and give a reason for their choice. The researchers used the children's task choice and reasoning to measure the children's goal orientation toward either a learning goal of developing their skills or a performance goal of documenting their abilities. 58 % of the children chose to rework one of the unsolvable puzzles, citing either enjoyment or desire for challenge as motivation. Among the children who chose to repeat a solvable puzzle, they either cited no reason or a desire to avoid challenge as motivation. The researchers found no sex or age difference among the groups.

When asked to select a fourth puzzle, children with a learning orientation were more likely to cite challenge or enjoyment, whereas children with a performance orientation were more likely to give reasons such as the ease of the task. The researchers concluded the difference between the two goal orientations is that one is, "strongly invested in pursuing challenging tasks that may provide opportunities for increasing skill or pleasure and one invested in avoiding challenges in favour of assured outcomes and demonstrations of competence" (Smiley & Dweck, 1994, p. 1730).

The researchers analyzed the children's spontaneous speech during the puzzle-solving task to analyze the differences between children with learning or performance goals. Children with performance goals demonstrated more 'performance concern', focussing on the number of pieces correctly placed, worrying about how other children had performed at the same task, and showing signs of wanting to quit early into the task. Children with a learning goal orientation reported more positive feelings. Further, children with a performance goal orientation reported feeling significantly sadder than children with a learning goal during the task. Additionally, children with a performance goal reported a greater decline in their rating of their ability to solve puzzles. When asked if they thought they could succeed at the unsolvable puzzles if given enough time, children with a learning orientation were significantly more likely to agree. In response to the unsolvable puzzles, the children with a fixed mindset produced a helpless pattern, characterized by greater performance worry, greater disengagement, more negative emotion, and lower confidence toward future tasks.

Smiley and Dweck (1994) then analyzed whether confidence levels affected mastery or learning goal oriented children differently. Low confidence children with a learning goal were not associated with more negative cognitions or emotions. In addition, their responses to the self-evaluation of their puzzle solving abilities was not different for high or low confidence children. The performance goal group was evenly divided between genders and confidence levels. Both confidence levels showed avoidance of challenge in their second choice of puzzle. The researchers noted: "just as many Confident as Not Confident children were interested in gaining assured outcomes, even though they felt they *could* succeed at a harder task" (Smiley & Dweck, 1994, p. 1734). When the researchers analyzed the children's spontaneous speech during the task among confident and unconfident children, they discovered Not Confident Performance Goal children were the most likely to make comments related to worries over their performance. Further, the Not Confident Performance Goal children were more likely to stop focussing on strategy and withdraw from the task. Confidence level also affected children's pre and post-test evaluation of ability. 33% of children with low-confidence made negative evaluations pre-test, rising to 65% after the failure experience; whereas, 6% of confident children made negative evaluation pre-test, rising to 25%. Thus confidence levels do not affect children with a learning goal orientation, but have a significant and detrimental effect on children with a performance goal orientation.

An important implication of Smiley and Dweck's work (1994) is that children's goal orientations are set prior to entering school. This has important implications for teachers of young children in helping students to understand thought patterns which foster agency and adaptive coping skills.

Haimovitz, Wormington, and Henderlong Corpus (2011) investigated children's views on their intelligence and how this affected their intrinsic motivation for learning. The participants included 978 3<sup>rd</sup> through 8<sup>th</sup> grade students from eight schools in Portland, Oregon. They noted that children who enjoy learning are more likely to be persistent, to embrace challenge, and to engage deeply. However, children's intrinsic motivation for learning tends to drop off as they age. Children completed a survey measuring their intrinsic motivation, beliefs about their mindset regarding intelligence, and their ability-validation goals, at the start of the school year. In the spring, children completed a survey regarding intrinsic motivation. The researchers identified two key factors in determining whether children maintain their intrinsic motivation for learning: i) children's beliefs regarding the malleability of intelligence; ii) and their tendency to seek personal validation through academic achievement. Children with a fixed mindset were more likely to experience a decline in intrinsic motivation. Students who experienced a decline in motivation received lower grades, regardless of their initial level of achievement. This study revealed a link between a growth mindset and academic motivation across grade levels, suggesting even younger children are susceptible to the maladaptive effects of a fixed mindset.

**Resilience.** Miele, Son, and Metcalf (2013) examined how children's theories of intelligence affected their metacognitive judgements. The researchers were specifically interested in how children's mindsets impacted their perception of effort as a sign of personal failure. The participants included fifty-one children from both the third and fifth grades from an elementary school in New York. The participants were from culturally and ethnically diverse backgrounds and lower socio-economic status. The children were asked to read two texts and then answered several multiple choice questions designed to measure children's judgement of understanding, actual understanding, theory of intelligence, and beliefs about effort. However, half of the children were given a copy of the text using a visually clear text and half were given a copy of the text using an unclear font. The data demonstrated that the children with fixed mindsets regarding intelligence were less likely to endorse a positive view of effort toward achievement. Additionally, children who viewed the role of effort in achievement positively were more

resilient toward the unclear font. These children believed their comprehension would remain strong despite the additional challenge. Children with a fixed mindset may have interpreted the need for additional effort in reading the unclear font as a sign they had reached the limits of their ability to understand the material (Miele, Son, & Metcalf, 2013). Miele, Son, and Metcalf (2013) noted that the link between children's view of effort and task-persistence impacted their ability to become self-regulated learners.

Nolan, Taket, and Stagnitti (2014) followed a subset of children participating in an Australian longitudinal study, "Supporting Resilience". The study examined resiliency in children facing challenges such as poverty, parental unemployment or insecure employment, insecure housing, divorce, separation, bereavement, family violence, or chronic health issues. Nolan, Taket, & Stagnitti focussed on 29 preschool and early school-aged children and their teachers. The researchers identified seven themes teachers used to support resiliency: fostering belonging, working with feelings, developing self-regulation, learning from mistakes and problem solving, using play, building relationships, and providing consistency (Nolan, Taket, & Stagnitti, 2014). Encouraging words and phrases such as, "persistence", 'have a go', 'trying your best', 'we all make mistakes to learn more' were revealed to be important in reinforcing resilience (Nolan, Taket, Stagnitti, 2014, p. 605).

**Intervention** Pawlina and Stanford (2011) conducted a qualitative research study of a growth mindset intervention with a group of seventeen preschoolers. The participants included four children with language delays, two children with sensory processing issues, one child on the autism spectrum disorder, a child with physical disabilities, and two children receiving support for emotional needs. The goals of the intervention were to foster a view of challenges as a part of growth; to develop children's agency in problem solving; and, to develop a classroom culture that supported a growth mindset perspective. The educators sought to achieve these goals through the use of classroom language, notably by praising children's efforts versus achievements, and by expanding learning opportunities. The educators began by discussing responses to challenge using the metaphors of 'bouncing like a ball' (mastery orientation) or 'flopping like a beanbag' (helpless response). They guided the children in selecting physical goals and encouraged the children to frame challenge and difficulties as opportunities for growth or to 'grow our brains'. The selection of physical goals tied into children's "funds of knowledge"(Moll et al., 1992) and reflected experiences from the children's home environment.

The teachers also monitored the children's choices in order to observe which children repeatedly chose challenges they had already mastered. The teachers noticed a growth in children's empowerment and resiliency. Children's spontaneous speech began to reflect a growth mindset as they described how they were growing their brains or expressed ideas about perseverance and effort.

Following the first intervention the researchers encouraged children to transfer their strategies from physical challenges to social challenges via a problem-solving model. Thus children's development of a growth mindset toward physical challenges translated to a positive change in their social development. The children encouraged each other during challenges, sought new and rigorous classroom tasks, and demonstrated resilience during difficult activities.

### **Classroom environments that promote a growth mindset.**

In addition to teaching children about a growth mindset, educators also need to provide an environment that fosters this approach. Dweck, Walton, and Cohen (2014) identified three key tenets for supporting children's psychological growth and well-being: challenge, scaffolding, and belonging.

**Feedback.** The types of feedback teachers provide children can directly cause patterns of mastery-hardiness or helplessness-vulnerability (Dweck, 1999). Feedback can be strategy-oriented ("Can you think of another way of doing that?"); mastery-oriented ("That's not what I call doing it the right way"); or person-oriented ("I'm disappointed in you") (Dweck, 1999). In a study focused on praise, 128 fifth graders from three different schools were involved in research as participants (Mueller & Dweck, 1998). The children were from either a culturally and ethnically diverse urban background or a mostly Caucasian rural area. The students were given sets of problems and were praised by the experimenters based on their effort ("You worked really hard"), intelligence ("You must be really smart"), or were given no praise. The majority of children who were given praise based on their intelligence chose performance goals for subsequent tasks, whereas children praised for their effort chose learning goals (Mueller & Dweck, 1998). Additionally, children praised for effort attributed difficulty with the tasks to a lack of effort, whereas children praised for intelligence ascribed difficulties to a lack of ability. When children link difficulty to a lack of effort it develops their sense of agency, because they can control their effort (Mueller & Dweck, 1998). When teachers praise effort over ability,

children are more likely to take risks and take on more difficult work (Sousa & Tomlinson, 2011; Dweck, 2006).

***Teacher expectations.*** Jussim and Harber (2005) conducted a review of research regarding teacher expectations focussing on the past thirty-five years. They began by studying Rosenthal and Jacobson's *Pygmalion in the Classroom* study (as cited in Jussim & Harber, 2005) in which researchers performed an intelligence test on 255 children in an elementary school in California. The participants were of lower socio-economic status and included a minority population of Hispanic students. Teachers were told the test identified children who were likely to 'bloom' or show a significant intellectual growth over the upcoming school year. Although teachers were informed which children were identified as 'late bloomers' the children were in fact selected at random. The teachers' expectations created a self-fulfilling prophecy and the late bloomers gained more IQ points than the control students. In addition, when the control group demonstrated growth they were seen as less well adjusted, interesting, and affectionate by their teachers. Because of ethical and methodological problems with the original study, Jussim and Harber examined subsequent studies to assess the validity of teacher beliefs on students' achievement. They discovered that teacher expectations predict, but do not cause, student achievement. Additionally, teachers are typically emotionally warmer, provide more support, teach more difficult material, and give more opportunities to demonstrate mastery to toward their high-expectancy students.

***Scaffolding academic and emotional support.*** Teaching a growth mindset to children involves not only focussing on the role of effort, but also teaching children to use a variety of strategies and resources. Hamre and Pianta (2005) measured the role of teachers in supporting children's emotional and instructional needs in at-risk children. 910 children were followed from birth to first grade in 10 American cities. The participants were selected with procedures to ensure economic, educational, and ethnic diversity. The research relied on classroom observations in the children's second year of school. Children at risk of school failure were identified through the measures of sustained attention, externalizing behaviours, social skills and academic competence. The researchers used videotaped observations to measure classroom process, including the climate of the classroom, classroom management, teacher sensitivity, literacy instruction, feedback, and encouragement of child responsibility. The data provided evidence that the quality of social and emotional support in classroom moderates the risk of early

school failure. Children who were identified as at risk of school failure in kindergarten displayed lower levels of achievement than their peers. However, some vulnerable children did not experience academic problems at the end of first grade, suggesting instructional support may close the achievement gap. The role of instructional support was especially marked in closing the achievement gap between children with mothers with low levels of education.

Hamre and Pianta (2005) discovered a similar correlation between children's academic achievement in classrooms with high levels of social and instructional support for children at high functional risk. This included children with some combination of early behavioural, attentional, social and/or academic problems. These classrooms were characterised by a positive classroom climate, student and teacher enjoyment, and teachers' responsiveness to children's needs. High functional risk children in these classroom displayed higher levels of academic achievement than high functional risk children in classrooms with low levels of emotional support. The researchers suggested that positive interactions with teachers and peers could increase children's motivation for academic goals. Additionally, children with high functional risk who had conflicted relationships with their teachers in kindergarten were likely to experience conflicted relationships in first grade, unless the teacher displayed high to moderate levels of emotional support. Although this study was limited by its use of an existing data set rather than data specific to the research question, it highlights the important role of psychological factors toward children's academic success. Belonging involves recognizing children's role as co-constructors of meaning and knowledge, as well as addressing academic and emotional barriers that may prevent children from participating in early learning activities.

***Reflecting on learning.*** Providing young children with metacognitive opportunities to reflect on learning allows children to develop their view of themselves as learners, to take responsibility for their learning, and to make sense of their experiences (Carr, 2011). Carr (2011) conducted an action research project over two years, involving a group of teachers in nine early childhood centers in Australia. The teachers and researchers explored ways in which young children could become more aware of their learning journeys, as well as benefit from understanding their peers' learning. They specifically sought to explore how, "teachers and young children, together, might develop this dynamic interrelation between an openness to experience and the capacity to reflect on experience to make sense of it" (Carr, 2011, p. 257). One of the goals of the project was to foster revisiting event stories: "conversations with children, in order for children to expand their

views about learning in general, to make meaning of the educational purpose in this place, and construct self-stories about being a learner” (Carr, 2011, p. 260). Some of the strategies to provoke revisiting learning included: wall displays; portfolios, which were accessible to children for reading individually, or with peers or teachers; collaborative opportunities in which children could take on expert roles; digital photos or video clips. Sharing power and using dialogic talk required practice and expertise; the teachers described a six-month learning curve. Some of the conversation strategies the teachers employed included: authenticity; co-authoring; and creating personalised connections. This included developing a shared and situated learning language (a learning language specific to the learning center, which is introduced by teachers and adopted by children) used in revisiting learning episodes. Carr (2011) noted that when teachers foster metacognitive talk about learning children are more likely to become interested and knowledgeable in at least one area.

## **Summary**

It is evident that non-academic factors are critical for children’s academic and social success. The factors include children’s self-efficacy, resilience, and self-view. A growth mindset approach allows children to connect effort to achievement, to develop a goal-orientation which supports learning, and to develop their sense of personal agency. By viewing a growth mindset approach within a sociocultural perspective the facets of a classroom environment which support children’s growth are visible.

In this chapter I drew upon the literature related to the benefits of a growth mindset approach for children and the classroom environment necessary to foster this approach. I described research regarding growth mindset interventions in the classroom. These theories are reflected in British Columbia’s curriculum (British Columbia’s Ministry of Education, 2016) in the areas of self-determination and self-regulated learning. Children’s intrinsic motivation for learning relates to one’s ability to become a life-long learner.

In the next chapter, I describe the implications of a growth mindset approach for children and educators and explore ways to incorporate a growth mindset approach into early primary classrooms. I describe a workshop for educators and administrators regarding strategies to expose children to a growth mindset approach, including ways for children to examine their self-views and develop their agency. In Chapter 4 I reflect on the project and how it has expanded my views on learning with children. I include future areas of research in developing children’s

growth mindsets and fostering a classroom environment which supports social and emotional growth.

### **Chapter Three: Connections To Practice**

In this chapter I connect the literature supporting a growth mindset perspective to teachers' classroom practices. Based on the literature in the previous chapter, a growth mindset perspective is an important factor in children's development of resilience, motivation for learning, and self-efficacy. Moreover, a growth mindset perspective may be particularly beneficial for children who suffer from anxiety, as it focuses on adaptive coping strategies such as normalizing errors and embracing challenge (Markovic et al., 2013). This chapter will include a description of a workshop for educators (Appendix A), which provides information and resources on teaching a growth mindset perspective. In addition, I provide educators with resources and ideas for sharing a growth mindset approach with parents (Appendix B).

#### **Using a Growth Mindset Perspective to Support Children's Resilience and Self-efficacy**

Growth mindset interventions, which involve teaching children about growth and fixed mindsets, can produce long-lasting benefits for students, such as increasing their self-efficacy (Dweck, Walton, & Cohen, 2011). Moreover, children's beliefs in their abilities can predict their academic achievement better than their measured level of ability and prior performance (Dweck et al., 2011). Teachers can focus their intervention on the plasticity of the brain and the malleability of intelligence. Books such as *A Walk in the Rain with a Brain*, by Edward Hallowell, or *Your Fantastic Elastic Brain: Stretch it, Shape it*, by JoAnn Deak provide introductions to the neurology and plasticity of the brain. Teachers can also introduce terms such as 'grow your brain' to introduce children to the malleability of the brain and to encourage children to embrace challenge. A failure and mastery response can be explained by the metaphor of 'bouncing like a ball' versus 'flopping like a beanbag' (Pawlina & Stanford, 2011). This positions children in a place of agency to select and persevere through tasks which will challenge and stimulate brain growth. Secondly, teachers can help children adopt a growth mindset perspective by scaffolding (Vygotsky, 1978) a mastery-orientation to challenge. Thus it is important for teachers to coach children through helpless responses in order to help children to engage in slow and thoughtful problem solving. This involves assisting children to identify their mindset and engage in problem solving behaviours.

Teachers can also help young children to understand that mistakes are a part of life and should be accepted calmly. Teachers can model this process, by articulating their own errors and

reactions to children. For example, metacognitive processes can be demonstrated by using self-talk to show children how to apply a resilience model (Pawlina & Stanford, 2011). Furthermore, mistakes can be framed as learning opportunities. Teachers can help children view mistakes as opportunities to experiment or to try different approaches. This can help children develop cognitive flexibility and foster a learning, versus a failure response. Adults need to be mindful of allowing children opportunities to problem solve, and possibly make mistakes, and need to refrain from stepping in too quickly to do things for children. For example, overcoming feelings of frustration in learning a new skill may help young children develop their resilience toward challenge.

### **Increase children's motivation for learning.**

An intrinsic motivation for learning is associated with adaptive behaviour, such as: persistence; cognitive flexibility; adaptive coping strategies; engagement in deep conceptual learning; and, a positive orientation toward challenge (Haimovitz et al., 2011). Children's motivation for learning is developed through their mindset and goal orientation- whether they seek to document their intelligence or whether they are interested in learning to acquire new skills (Cain & Dweck, 1995; Haimovitz et al., 2011, Heyman & Dweck, 1992). Children with a fixed mindset tend to attribute challenge to personal attributes, reducing their motivation to engage in learning (Cain & Dweck, 1995) or they may chose tasks that provide short-term success at the expense of opportunities for future development (Heyman & Dweck, 1992). Moreover, when children focus on outcome versus process, they do not attend to the processes which might improve their ability (Cain & Dweck, 1995). Teachers can help children focus on process versus outcome, by exploring learning in depth. For example, teachers may use inquiry learning which espouses knowledge creation, investigation, research, and exploration.

### **Develop self-efficacy.**

British Columbia's Personal Awareness and Responsibility competency profile (2016) recognizes the importance of self-efficacy to children's development by stating, students, "value themselves, their ideas, and their accomplishments. They are able to express their needs and seek help when they need it, to find purpose and motivation and act on it, and to advocate for themselves." (British Columbia Ministry of Education, 2016). Teachers can scaffold problem-solving models through role-playing, social emotional programs, and by modeling the language of problem solving. The Second Step program is a widely used social emotional program which

uses picture cards to help children identify emotions and develop problem solving skills through dramatic role-plays. This may involve encouraging children to listen to each other, make eye contact, and use polite and respectful language. Additionally, providing children with time for play encourages open-ended problem solving skills (Nolan et al., 2014). Children should be encouraged to work collaboratively to problem-solve and teachers can reinforce their expectations, such as encouraging students to ask their peers for help before asking for adult assistance. Teachers also need to be cognizant of children's differing abilities and ensure challenges are within the skill level of each child.

### **The Benefits of a Growth Mindset Perspective for Children with Anxiety**

Anxiety can have a severe effect on children's lives as it can interfere with children's attendance and focus at school, it can impact social relationships, and can influence children's self-view (Cartwright-Hatton et al., 2005; Pereira et al., 2012; Rapee et al., 2009). However, when teachers promote social and emotional learning in the classroom, they can have an impact on children's mental health and level of success (Durlak et al., 2011, in Nolan et al., 2014). Pereira et al. (2012) discussed the importance of cognitive restructuring by helping children to identify negative thoughts and identifying alternative thoughts. For early learners with anxiety, a concrete understanding of a growth mindset perspective, such as understanding when they are 'flopping like a beanbag' (Pawlina & Stanford, 2011) may allow children to pause and consider growth mindset self-talk. Cartwright-Hatton et al. (2005) noted that children with anxiety would benefit from support during social interactions so that they may feel more confident and relaxed. Classroom discussions and programs such as Second Step can be used to show children that everyone experiences uncomfortable feelings. By normalizing feelings of anxiety, fears of failure, and discomfort with novel experiences and environments, children can understand that their feelings are acceptable.

It is important to recognize that engaging in challenging activities will be different for every child and to accept those differences. Teachers can offer multiple ways for children to participate in classrooms. For example, some children might need to observe before participating in activities. Teachers can support children in creating social goals and documenting successes. Young children should be recognized as agentic and capable in setting goals and selecting coping strategies to use to support their anxiety at school (Sousa & Tomlinson, 2011).

### **A Classroom Environment That Supports a Growth Mindset Approach**

An optimal classroom environment promotes a growth mindset perspective through the use of challenge, scaffolding, and belonging (Dweck et al., 2014). Further, this type of environment supports children's agency in setting goals and becoming self-regulated learners. Heyman and Dweck (1992) described this environment as one which supports children in identifying and pursuing their academic goals. Research has demonstrated that children are more motivated to learn when teachers have high expectations and provide challenges for students (Heyman & Dweck, 1992; Jussim & Harber, 2005). Teachers who hold high expectations for their students tend to invest more attention and express more positive feelings toward students, such as providing longer wait-time for children to answer questions and offering more encouragement (Dweck et al., 2011). In addition, holding high expectations communicates teachers' feelings that students are capable. Thus, teachers can help develop skills of academic self-regulation, so that children develop an interest in going deeper in their learning. Providing personalized learning opportunities so that all children can engage in challenging work is important toward developing children's motivation for learning. In addition, teachers can help children espouse a learning orientation, so that students can take risks and engage in deep learning.

Teachers' use of feedback is important in highlighting the values of the classroom and the development of children's goal orientations (Carr, 2011; Dweck, 1999; Mueller & Dweck, 1998; Nolan et al., 2014). For example, when children are praised for their intelligence they are more likely to orient toward a performance goal, to avoid risks, and to view their self-worth as tied to achievement (Mueller & Dweck, 1998). In contrast, teachers can praise both children's effort and learning process in order to foster a learning goal orientation. Therefore, praising children's efforts can enable them to value learning for the intrinsic pleasure of developing new skills and engaging in challenging tasks: as a result, children begin to adopt this learning language as their own and, use it with their peers (Carr, 2011).

Young learners need practice to develop a growth mindset perspective. Thus, teachers can scaffold goal-setting and self-management strategies, to foster children's self-efficacy (Dweck et al., 2014; Pawlina & Stanford, 2011; Vygotsky, 1978). When children are given autonomy in the classroom, they are able to develop these skills (Dweck et al., 2014). Moreover, classrooms which encourage children's autonomy, provide students with choice, and encourage children's voice in co-authoring the curriculum (Martin, 2004).

Teachers can model resilience and problem-solving skills by naming their feelings and describing the problem solving process. Programs such as Second Step or the Zones of Regulation can be used to help children develop the skills to identify their emotions. The Zones of Regulation program helps children develop self-regulation by assigning emotions to four colours. The program helps children identify strategies to help return to a green zone, or a calm state of alertness. Additionally, it is important for teachers to acknowledge children's feelings and listen to children's experiences. Furthermore, teachers can discuss the feelings associated with a growth and fixed mindset. For example, children can share how it feels when they persevere during a challenging time versus how it feels when they produce a failure response. Stories that feature characters who develop agency through a growth mindset such as *Giraffes Can't Dance*, by Giles Andreae, or *A Salmon for Simon*, by Betty Waterton, can be used as a prompt for discussions on perseverance and resilience.

Children's resilience is increased when they feel a sense of belonging and importance in the classroom (Dweck et al, 2011; Nolan et al., 2014). Dweck et al. (2011) describe the importance of teachers creating a sense of belonging to support students' self-efficacy and tenacity. Research has demonstrated that the teacher-child relationship is the key factor in creating a supportive school community (Martin & Marsh, 2008). Teachers can foster belonging by creating a designated space for each child, such as a place to sit and a space in the cloakroom (Nolan et al. 2014). The physical environment of the classroom is also creates spaces for collaborative work and play. Classrooms which promote collaborative opportunities can foster a sense of belonging and recognize the importance of each child in the collective.

### **Support Parents' Understanding of a Growth Mindset Approach**

Several studies (e.g., Andersen & Nielsen, 2016; Haimovitz & Dweck, 2016) demonstrated the link between parents' adoption of a growth mindset and children's development of a positive self-view and motivation for learning. For example, parents who do not believe they can make much of a difference to their children's abilities may interact with a child in unconstructive ways (Anderson & Nielsen, 2016). While many parents naturally have a growth mindset, others are focussed on children's achievements and grades. Teachers are in a unique position to both share information with parents regarding a growth mindset approach and to assist parents in fostering this perspective in their children. Information on a growth mindset

approach and what children are learning can be shared with parents. A description of how to praise effort versus achievement can be distributed to parents (Appendix B).

### **Assess for growth**

Young children need opportunities to reflect on their learning in order to develop a view on how they learn and their identities as learners (Carr, 2011). This involves helping children to engage in metacognitive processes in order to recognize practices which have helped or hindered their learning (Fisher, 1998). Metacognition leads to self-awareness, enabling children to develop a clearer grasp of what they can and cannot do, as well as clear ideas about what they need to increase their knowledge and understanding (Fisher, 1998). Reflecting on learning helps children to engage in slow thinking which fosters the type of deep thought needed for problem solving and creative thinking (Fisher, 1998).

Carr (2011) posited that revisiting event stories can serve as a means for teachers and children to participate in co-authored conversations about learning and for young children to engage in metacognitive processes. Teachers may use photos, portfolios of children's work, journals, videos, or class books as prompts for revisiting children's learning. Teachers can help children highlight areas of growth, strengths, and future challenges. Children benefit from revisiting their learning with their family and peers, as well as their teacher. Teachers may use newsletters or digital portfolios as a provocation for shared reflection between children and families. Self-assessment provides a means for children to reflect on their learning and to highlight accomplishments they are proud of, as well as to identify goals for future learning. Long-term goals contribute to students' engagement and tenacity (Dweck et al, 2014). When teachers use goal-setting activities with children, they can emphasize the importance of embracing challenge and a learning goal orientation. Self-assessment allows teachers to include children's voices in assessment and gives children agency in future learning.

## **Professional Development Workshop**

### **Supporting anxious children at school: A growth mindset approach**

The purpose of this capstone project is to support educators in fostering a growth mindset perspective in students, especially children with anxiety. To this end, I have developed a professional development workshop (Appendix A) that shares important theories and research with educators. The workshop explores how teachers can share this knowledge with students and

parents, and how teachers can create a learning environment which fosters a growth mindset. I have also developed a parent handout (Appendix B) with information on a growth mindset approach and strategies parents may use at home.

In part one of the workshop teachers will be introduced to a growth mindset perspective. I will share my interest in a growth mindset perspective and my goals in completing this capstone project. I will present the research demonstrating the benefits of a growth mindset perspective for children's resilience, motivation to learn, and self-view. Next, the impact of anxiety on children's academic and social lives is discussed. In the second part of the workshop, I will share research regarding how teachers can foster a growth mindset approach in their classrooms. Thirdly, I will discuss how teachers can share a growth mindset approach with parents. I will present some resources suitable for sharing with parents (Appendix B). Lastly, I will discuss how teachers can assess for growth in their classrooms. At the end of the workshop, I will provide time for teachers and administrators to reflect on how their classroom practices can foster a growth mindset for students and families.

### **Summary**

The goal of my workshop is to help teachers identify and address some of the specific challenges children with anxiety experience in the classroom. I invite teachers to consider behaviours associated with anxiety, such as decreased resilience to challenge, reduced motivation for learning, and cognitive distortions in children's self-view. These behaviour may manifest themselves in reduced school attendance, fearfulness toward new environments and activities, reduced social bonds, and showing resistance during times of challenge. To this end, I share my interest in a growth mindset approach and the benefits I have observed for children. Therefore, my workshop provides activities and strategies to support the development of a growth mindset through explicit instruction and by creating a classroom environment which fosters belonging. Furthermore, I recognize the role parents play as partners in learning and provided strategies and resources (Appendix B) to foster a growth mindset perspective at home. Lastly, I invite teachers to consider how they might assess for growth and help children develop metacognitive skills for reflecting on learning.

## **Chapter 4: Reflections And Conclusions**

Current literature regarding the impact of anxiety on children's school experiences has provided new insight for teachers and parents on the importance of developing skills and strategies to support children's healthy development. Research shows that the prevalence of anxiety in school-aged children is increasing (Wadell et al., 2014), therefore, it is imperative that teachers and parents address young children's maladaptive coping skills, by fostering a growth mindset approach. Non-cognitive factors such as, self-efficacy, resilience, and motivation for learning, are of particular benefit for students from populations that face additional barriers to learning; such as, children with anxiety, gifted children who identify as girls, children with low socio economic status, and racial minorities (Dweck et al., 2011; Dweck, 1999). However, the benefits of a growth mindset perspective are of importance for all children in maintaining one's resilience during challenges.

The benefits of a growth mindset approach (Dweck, 1999, 2006) has challenged me to consider how teachers can use metacognitive strategies (Flavell, 1979, 1983) to help children reflect on their mindset. I have also considered how social-constructivist theory (Rogoff, 2003; Vygotsky, 1978) can inform a classroom environment which supports young children in developing a sense of agency and self-efficacy. In this final chapter, I reflect on what I have learned throughout this capstone project, and reflect on recommendations for supporting children with anxiety, and areas for future research.

### **Recommendations for Supporting Children who Experience Anxiety**

This capstone project has enabled me to have a better understanding and deeper empathy for the children in my classroom who experience anxiety. I was particularly interested in researching the ways to support the social and academic development of children with anxiety in my classroom, as described in chapter one. Thus, classroom teachers need tools to both recognize and work with children who experience anxiety, as well as their families. This may be particularly beneficial to early childhood educators and administrators as they support children who are transitioning to formal schooling. My goal, in creating the project was to understand the barriers anxiety creates for young children and how teachers may foster positive coping skills for children and their families. In my workshop, I have provided a forum for teachers to discuss the

implications of anxiety on children's participation in the early years and strategies to support children's positive coping skills.

### **The Importance of a Growth Mindset during Transitions**

A belief in the malleability of one's intelligence and social skills is important during challenging periods, such as transition years. Yeager and Dweck (2012) identified a growth mindset as being important to combatting academic underachievement and in mitigating against the impact of peer exclusion and bullying during students' transition to middle school. In my practice, I have observed children's feelings of anxiety as they enter their new classroom at the start of the school year. I have previously described children who were unable to participate in classroom activities due to anxiety. Being confident in their abilities to adapt and take on new challenges can better prepare students for these transitions. Growth mindset interventions can improve children's resilience without removing the adversities students encounter in school (Yeager & Dweck, 2012).

A growth mindset perspective is important in developing an outlook as a lifelong learner. Furthermore, metacognitive skills are of increasing importance as students age and are expected to develop academic self-regulation skills (Fisher, 1998), and develop and revise successful academic strategies. British Columbia's Ministry of Education curriculum (2016) recognizes the importance of self-determination and self-regulation, as aspects of the Personal Awareness and Responsibility competency. This competency is interwoven throughout the curriculum and is both progressive and additive throughout students' academic careers. Based on my interactions with my students, the children in my class who embrace a growth mindset perspective orient themselves toward challenge: they seek out opportunities to extend their thinking and learning and take risks in their learning.

### **The Benefits of a Growth Mindset Perspective for Educators and Schools**

Students benefit from teachers who embrace a growth mindset perspective. For example, according to Dweck (2014), teachers with a growth mindset engaged in more professional development and were more likely to seek feedback from colleagues or supervisors. Moreover, teachers with a growth mindset were more likely to confront problems in their teaching by seeking out strategies to develop their skills (Dweck, 2014). Having a belief in the malleability of one's teaching skills may orient teachers toward self-reflection and metacognitive processes. In addition, teachers with a growth mindset tended to embrace a belief that all children are

capable of learning (Dweck, 2006; Sousa & Tomlinson, 2011). Teachers with a fixed mindset were more likely to categorize children as smart or less smart and to see the categorization as permanent (Dweck, 2006). In contrast, teachers with a growth mindset believe that every child can grow and learn, with the right strategies and supports. These teachers are more likely to offer feedback that highlights students' effort and strategies, and focuses on children's progress. Moreover, these teachers are more likely to critique children's work and hold students to high standards. As I engaged with the research on a growth mindset perspective, I found myself becoming increasingly aware of the significance of seeking and revising strategies to support the children in my class. A growth mindset is especially important in working in an inclusive environment with challenging and complex student populations. Moreover, I found a growth mindset approach helpful as I engaged with new ideas through both my investigation on the literature and masters' level courses, as this perspective helped me take risks and engage with new ideas.

### **Areas for Future Research**

Anxiety can affect children's school attendance, readiness for learning, and academic and social success (Pereira, Barros, & Mendonca, 2012; Sousa & Tomlinson, 2011). Moreover, children who demonstrate signs of anxiety in the early years of school are more likely to develop maladaptive coping skills and anxiety disorders later in life (Rapee et al., 2009). However, there is a lack of training, strategies, and resources for classroom teachers in supporting these children. Most of the research on anxiety in young children is focussed on health-care professionals, leaving classroom teachers with a lack of resources. Additionally, few studies exist that explore the relationship between children's anxiety and the school environment. There is a need for further exploration into aspects of school that might trigger feelings of anxiety and how these experiences might be moderated and supported. Through my exploration of the research on the effects of maladaptive coping skills, I have come to understand the need for early intervention in supporting children with anxiety. In examining my teaching practice, I would appreciate further resources to assist my students in developing healthy coping skill, as well as resources I can share with families regarding ways to support their child's resilience.

While research exists showing the impact of a fixed or growth mindset for children as young as preschool age (Smiley & Dweck, 1994), the majority of research on growth mindset intervention is focussed on secondary or university-aged students. Pawlina and Shelby (2011),

demonstrated the benefits for implementing a growth mindset intervention with a diverse group of preschool children, showing a need for further study with early learners. Therefore, more studies are specifically needed on how early exposure to a growth mindset approach can carry over into later years. Lastly, I was not able to find any research regarding the possible benefits of a growth mindset approach for children experiencing anxiety. Given the low-cost and ease of introducing a growth mindset approach, and the increasing prevalence of anxiety in school-aged children, this is an area worthy of future exploration.

In addition, students', educators' and administrators' mindsets also impact their approach toward challenge and resilience. In particular, teachers' mindsets may impact their leadership style within the classroom. Research has demonstrated that business leaders with a fixed mindset are more likely to have a more autocratic leadership style (Dweck, 2012). These leaders do not welcome feedback from their employees and are less likely to use a collaborative approach (Dweck, 2012). Therefore, further study into how teachers' mindsets impact their leadership style, may be beneficial in helping educators adopt an openness to developing their skills and toward sharing power with students.

**Conclusion** To develop healthy relationships and to engage in powerful learning, children need to embrace challenges, take risks, and be resilient. However, children with anxiety face particular difficulties in both attending and participating in school activities. Through the research presented in this capstone project, I have found strategies to support children with anxiety by fostering a growth mindset approach (Dweck, 1999, 2006) and positioning children as agentic through a social constructivist classroom environment. This entails supporting children's development of metacognitive skills and self-efficacy. It is my hope that educators, including myself, can remain sensitive to the challenges these children experience. As there is a lack of research regarding how classroom teachers can best support children with anxiety, there is a need to share ideas and strategies. Moreover, I am hopeful that teachers will have more opportunities for professional development in order to support an inclusive classroom environment through a growth mindset perspective.

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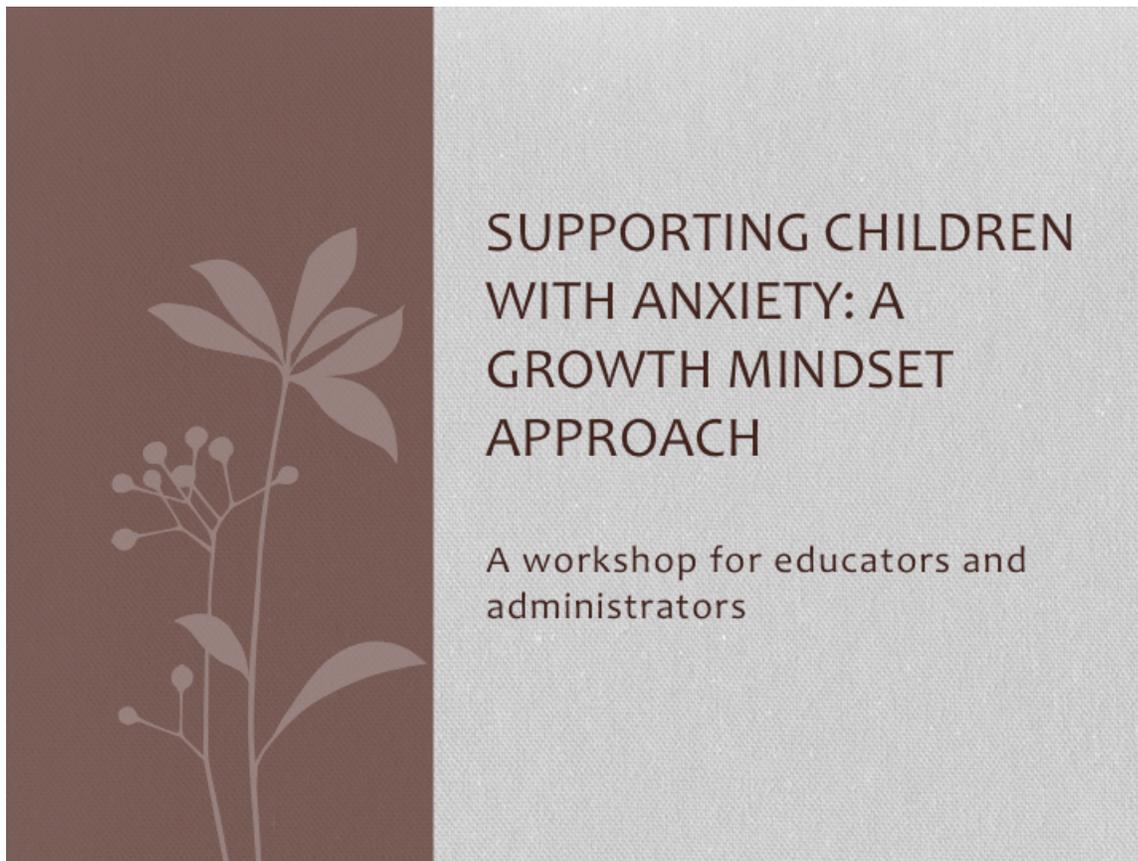
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Welcome teachers and administrators. Today I will discuss the importance of supporting children with anxiety through the use of a growth mindset approach. As we come to understand more about the impact of stress on the brain, teachers and researchers are gaining a clearer understand of the need to support young children’s social and emotional growth. I will begin by providing a definition of a fixed and growth mindset, as well as the benefits of a growth mindset for children’s social and academic growth. Next, I will discuss the effects of anxiety on school-aged children. There will be a discussion time for teachers to share their experiences of working with children with anxiety and their strategies for supporting these students. I will discuss ideas for teaching a growth mindset and classrooms environments which support this approach. Lastly, I will discuss ideas for sharing a growth mindset approach with parents and assessing for growth.

## A growth mindset approach

“The view that you adopt for yourself profoundly affects the way you lead your life. It can determine whether you become the person you want to be and whether you accomplish the things you value” (Dweck, 2006, p. 6).



Image courtesy of: <https://pixabay.com/en/leaf-growth-seed-plant-green-430419/>

Carol Dweck's (1999, 2006) research into mindsets described the powerful set of beliefs that individuals form about themselves and which guide one's behaviour and interactions with others. Mindsets include beliefs about one's ability to adapt to challenges and belief in one's self-efficacy. Mindsets can shape whether an individual embraces and relishes challenges or whether one sticks to safe and easy tasks. In an educational context, mindsets are important to children's motivation for learning, including an intrinsic pleasure in exploring new ideas and concepts. This motivation for learning is especially important to developing skills for self-regulated learning. While individuals are predisposed to certain mindsets, children can be taught to become aware of, and to shape their mindset. This is exciting for early childhood educators, as young children can carry forward ideas about mindsets into the rest of their academic career.

### Children with a fixed mindset...

- Believe their intelligence and social skills are set at birth
- Use academic activities as a means to document their abilities
- Prefer easier, low-risk activities
- See effort as a negative

### Children with a growth mindset...

- see their intelligence as malleable through hard work
- enjoy challenges
- view mistakes as learning opportunities
- enjoy learning for the sake of learning

Children with a fixed mindset believe their intelligence and social skills are set at birth. They may describe themselves as, “I’m just not a math person”, “I’m shy”, or “I’ve never been good at drawing”. These children use academic learning as an opportunity to reinforce their self-views. Because of this, these children often choose easier tasks and are adverse to taking risks in academics, social relationships, or athletics. Moreover, these children often see effort as a sign of weakness or lowered-ability.

In contrast, children with a growth mindset see their skills as malleable through hard-work and effort. They enjoy challenging work, take-risks, and persevere through difficult tasks. These children see failures as opportunities to revise their strategies and to find new and better ways of accomplishing tasks.

People move between a growth and fixed mindset throughout their lives. This may be influenced by task. For example, a student may display a growth mindset in math, but a fixed mindset toward reading. An individual’s mindset can also be impacted by stressful life events. For example, children tend to display a fixed mindset during times of transition, such as the move to high school (Yeager & Dweck, 2012). However, research has shown that teaching children about a growth mindset and developing their metacognitive skills of self-reflection can help children orient toward a growth mindset (Dweck, 1999, 2006).

## Ideas for teaching a growth mindset approach

- Teach children about the neurology of the brain
- Introduce children to a growth mindset perspective by discussing the malleability of intelligence
- Model risk-taking, coping skills, and resilience toward errors
- Scaffold problem-solving (I feel; everyone makes mistakes; next time I'll try...)



Research has demonstrated that a growth mindset approach can be introduced to children as young as preschoolers. Firstly, teachers can introduce young children to the neurology of the brain. Books such as *A Walk in Rain with a Brain* and *Incredible Flexible You* are picture books suitable for read-alouds which provide information on the parts and functions of the brain. Understanding how the brain functions is important because it emphasizes that children have control over their reactions and their intelligence. In addition, teachers can model resilience and problem-solving strategies by naming their emotions and modeling problem-solving strategies. This both normalizes uncomfortable emotions and demonstrates positive coping skills.

## A growth mindset intervention

### Goals:

- Help children use metacognitive strategies to identify their mindset
- introduce children to goal-setting
- Develop an orientation toward problem-solving

- 1. Introduce children to two responses to challenge: bouncing like a ball or flopping like a bean bag
- 2. Discuss what the two reactions look and feel like
- 3. Goal setting: discuss the benefits of goal setting, appropriate goals, and how children intend to monitor and achieve their goal. (Teacher of young children may wish to select a physical goal; teachers of older students may wish to focus goal setting around a specific skill, eg. Writing)
- 4. Support and encourage children by using growth mindset language (emphasize effort & problem-solving strategies)

Teachers can scaffold a problem-solving model for children by introducing a growth-mindset intervention. Research (Pawlina & Shelby, 2011) has shown this type of intervention can be used with children as young as preschool. Firstly, teachers can introduce children to the two reactions to challenge: a failure response in which children give up and avoid difficult tasks; and a mastery orientation, in which children persevere through challenge (Dweck, 1999, 2006). Teachers can facilitate a discussion about how each response feels and how a mastery orientation helps the brain to grow and develop. When children encounter a challenging situation, teacher should scaffold and support a problem-solving model in which children develop and evaluate strategies.

As children become familiar with a growth mindset vocabulary and as teachers scaffold the problem-solving routine, children will begin to adopt this classroom language (Carr, 2011). In classrooms which used a growth-mindset intervention (Pawlina & Shelby, 2011), children began encouraging each other to use a growth mindset approach and to persevere through challenges.

# Anxiety in the classroom

Children who experience anxiety may:

- appear shy and have difficulty making friendships (Rapee, Schniering, Hudson, 2009)
- feel uncomfortable in unfamiliar environments
- have difficulty separating from their family at the start of the day
- find it difficult to speak in front of the class

- Anxiety is the most frequent mental health problem affecting Canadian children
- Anxiety impacts children's school attendance, friendships, and academic achievement
- Anxiety and stress can affect the brain's chemistry, causing cortisol to flood the brain, and disrupt learning (Sousa & Tomlinson, 2011)
- Children who experience anxiety may experience cognitive errors, such as catastrophizing, overgeneralizing, and personalizing situations (Pereira, Barros, Mendonca, 2012)

When children experience anxiety the brain's chemistry may be affected to the extent that cortisol may prevent the brain from learning or participating in school activities. Children with anxiety often experience a negative bias (Pereira, Barros, Mendonca, 2012) in which children may see themselves as shyer or less capable than they really are. Children with anxiety may also catastrophize situations or perceive activities as riskier than they actually are (Pereira et al, 2012). In addition, children who experience anxiety are more likely to use internalized coping strategies, versus asking a teacher or friends for help (Markovic, Rose-Krasnor, & Coplan, 2013).

Children who experience anxiety in the early years are more likely to develop anxiety disorders later in life (Waddell, Shepherd, Schwartz, & Barican, 2014). However, teachers are in a unique position as trusted adults in children's lives. When teachers promote social and emotional learning in the classroom, they can impact on children's health and success.

## Supporting children who experience anxiety

### Teachers can:

- Teach children to name their emotions
- Help children identify positive coping strategies
- Help children to identify negative thoughts and replace them with positive ones (Pereira, Barros, & Mendonca)
- Develop the child's agency by soliciting coping strategies from the child
- Develop an awareness of situations which may cause students to experience anxiety



Image courtesy of: <https://pixabay.com/en/bridge-vintage-bridge-old-building-1209264/>

Teachers can support children who experience anxiety by helping children to develop positive coping techniques. Firstly, teachers can help children learn to identify their feelings. Resources such as the Second Step program can be used to teach the names of different emotions and the physical sensations associated with different emotions. Secondly, teachers can help children identify coping strategies such as taking deep breaths or tensing and relaxing muscles. Teachers can also help children identify negative thoughts and replace them with positive ones. Prompting questions, such as “What’s your mindset?”, “Are you bounding like a ball or flopping like a beanbag?” can help children shift their thinking. Teachers should also be cognizant of asking the child what strategies he or she finds effective and for ideas for strategies which may be beneficial. Lastly, teachers should be aware of situations which increase anxiety. For example, a child who experiences anxiety during public speaking may benefit from presenting with a partner. It is important for children with anxiety and their teachers to revise and re-evaluate strategy use in order to continually be developing their coping skill set.

## The benefits of a growth mindset approach for children with anxiety

A growth mindset approach:

- helps children develop a more accurate self-view
- emphasizes the malleability of social and academic skills
- helps children develop metacognitive skills to identify their mindset



Image courtesy of: [https://pixabay.com/en/grasshopper-  
viridissima-green-193721/](https://pixabay.com/en/grasshopper-<br/>viridissima-green-193721/)

Research (Dweck, 1999, 2006) has documented that people with a fixed mindset have more difficulty accurately describing their skills and abilities. As children with anxiety are more likely to attribute social difficulties to personal social skills and to internalize situations, a growth mindset can help children to normalize social situations. In addition, a growth mindset can help children believe in their ability to become more social and less shy through effort.

## Discussion

- What signs or symptoms of anxiety do you see in children in your classroom or school?
- How does anxiety impact your classroom?
- What strategies do you use to support children with anxiety?

Please turn to a teachers sitting next to you and consider the following questions: how does anxiety impact students in your classroom? What strategies do you use to support these students?

\*Discussion time provided to share findings regarding the effects of anxiety on early learners and means of supporting these children.

## Social constructivism

“The learning environment supports students in taking the risk of learning. A positive environment attends to students’ affective needs for acceptance, respect, affiliation, contribution, challenge, and support. Such a learning environment is neither accidental nor coincidental to learning to learning.” (Sousa & Tomlinson, 2011, p. 12)

Social constructivist theory (Rogoff, 2003; Vygotsky, 1978) explains that children will acquire the beliefs, values, and practices of the community.

Social constructivism can assist teachers to...

- Use language which supports a growth mindset
- Create a collaborative learning space
- Foster children’s agency by co-creating curriculum with children
- Create a safe and secure learning environment

Social constructivism (Rogoff, 2003; Vygotsky, 1978) recognizes that children make sense of their world through their participation in it. When children enter a classroom everything including the language teachers use; the furniture and the physical space; and the books and toys, all provide children with information about the values of the classroom. Teachers should be cognizant of creating spaces for collaboration through the furniture and its’ arrangement. In addition, teachers should choose toys and classroom materials which support open-ended, discovery play and learning. Finally, teachers should consider means to give students voice in co-creating curriculum.

## Classroom environment which promote a growth mindset approach

Teacher expectations: set the bar high



Image courtesy of: <https://pixabay.com/en/high-jump-track-field-competition-695308/>

Research has demonstrated that children are more motivated to learn when teachers hold high standards and provide a challenging environment (Heyman & Dweck, 1992; Jussim & Harber, 2005). Teachers who hold high expectations for their students tend to invest more attention and express more positive feelings toward students, such as providing longer wait-time for children to answer questions and offering more encouragement (Dweck et al., 2011). In addition, having high standards for students shows children that their teacher believes in their abilities.

# Classroom environments which support a growth mindset approach

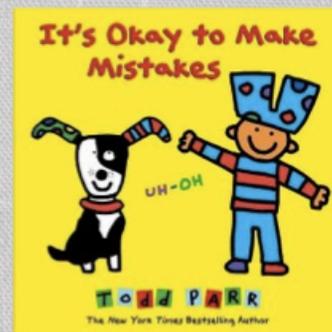
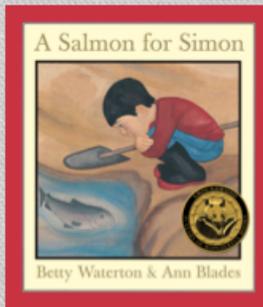
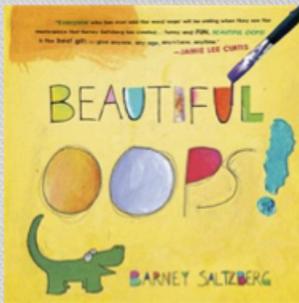
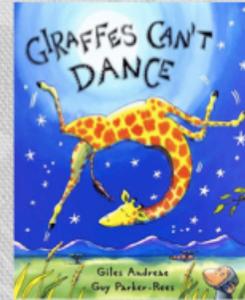
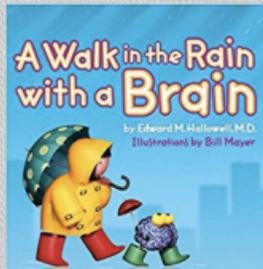
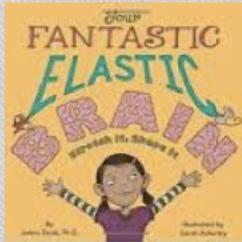
## Teacher feedback

<b>Say This</b> <i>Praise the effort a student exhibits during a task</i>	<b>Not That</b> <i>Avoid statements that suggest a student is "smart"</i>
I like the way you tried all kinds of strategies on that math problem until you finally got it.	Wow, you did great on that math problem – you're smart!
It was a long, hard assignment, but you stuck to it and got it done. That's great!	See, I told you that would be easy – you're smart!
For the student who gets an A without trying: "All right, that was too easy for you. Let's do something more challenging that you can learn from."	Nice job, you got an A without even trying.
For the student who works hard and <i>doesn't</i> do well: "I liked the effort you put in. Let's work together some more and figure out what you don't understand."	Some people are just not good at math – don't worry about it.

Image courtesy of: <https://www.tes.com/lessons/qvScFiCgF5TZNw/motivation-growth-mindset>

Research has demonstrated that teachers' use of praise is important in developing children's goal-setting orientation (Mueller & Dweck, 1998). When children are praised for their achievement, they are more likely to focus on their marks and are less likely to develop an intrinsic love of learning. These children may associate achievement with acceptance and come to associate their self-worth with achievement. In contrast, when teachers praise children for their effort they are more likely to develop a learning-orientation and to focus on developing and revising strategies (Sousa & Tomlinson, 2011).

## Resources for teaching a growth mindset approach



Teachers can use books such as, *Your Fantastic Elastic Brain* and *A Walk in the Rain with a Brain* to introduce children to an understanding of the basic neurology of the brain. *It's Okay to Make Mistakes* and *Beautiful Oops* can be used to normalize mistakes and as a prompt for class discussion regarding healthy coping skills when one makes an error. Titles such as *A Salmon for Simon* and *Giraffes Can't Dance* feature protagonists who face challenges, but overcome them through hard-work and effort. Such titles can be used to prompt discussion regarding problem-solving and perseverance.

## Creating a sense of belonging and importance

- Demonstrate each child's importance and belonging in the classroom
- Designate a space for each child
- Display children's artwork, photos, and creations
- Create spaces for collaboration
- Foster a sense of community



Image courtesy of: <https://pixabay.com/en/pencil-color-colorful-green-tool-1067670/>

Feeling a sense of belonging increases children's resilience. Research has demonstrated that the teacher-child relationship is a key factor in creating a supportive school environment. Research has demonstrated that a warm teacher-child relationship can buffer against the effects of poverty and behavioural and academic difficulties (Hamre & Pianta, 2005).

In addition to fostering a warm relationship with students, teachers can foster a sense of community in the classroom. Teachers can help children to learn each other's names at the start of the year, by engaging in collaborative learning opportunities, and by creating time for play. In addition, teachers can demonstrate a warm regard for children by getting to know each child's interests and by greeting children individually at the start of the day (Nolan, Taket, & Stagnitti, 2014).

## Parents as partners

- Emphasize parents' role as children's first teachers.
- Share classroom learning about a growth mindset approach with parents.
- Provide parents with resources regarding praise for process versus achievement.



<https://runnersconnect.net/masters-running/is-masters-track-for-you/>

In addition to supporting a growth mindset perspective for children, teachers can provide resources for parents. Research demonstrates a link between parents' mindsets and children's motivation for learning and self-efficacy. For example, some parents place undue emphasis on children's grades and report cards, as opposed to growth and progress. This can reinforce a fixed mindset perspective in children. In addition, parents' mindsets can affect how they support learning at home. When parents have a fixed mindset, they are more likely to believe they cannot make a difference on their child's academic development and may be less likely to help their child with homework or other academic activities at home.

## Assessment for growth: metacognitive thinking

- Provide opportunities for metacognitive reflection (Flavell, 1979, 1983; Schraw, 1998)
- Use self-assessment to help children reflect on strengths and areas for growth
- Use goal-setting to foster children's motivation for learning and development of academic self-regulation skills



Image courtesy of: [https://www.google.ca/search?q=measuring+kids+on+wall&espv=2&source=lnms&tbn=isch&sa=X&ved=0ahUKEwiasoaC3zSAhWBw7wKHW2nB9QQ\\_AUIBigB&biw=1016&bih=575#imgrc=IVxtXhPKb7UxfM](https://www.google.ca/search?q=measuring+kids+on+wall&espv=2&source=lnms&tbn=isch&sa=X&ved=0ahUKEwiasoaC3zSAhWBw7wKHW2nB9QQ_AUIBigB&biw=1016&bih=575#imgrc=IVxtXhPKb7UxfM)

Young children need opportunities to reflect on their learning. When children engage in metacognitive processes, or thinking about thinking, they gain a better picture of their strengths and weaknesses as a learner. Metacognitive processes also help children to evaluate their strategy use, to understand what helps them learn. Developing children's meta-cognitive skills is important to their development as self-regulated learners, an important skill recognized in British Columbia's new curriculum under the Personal Awareness and Responsibility competency (British Columbia Ministry of Education, 2016).

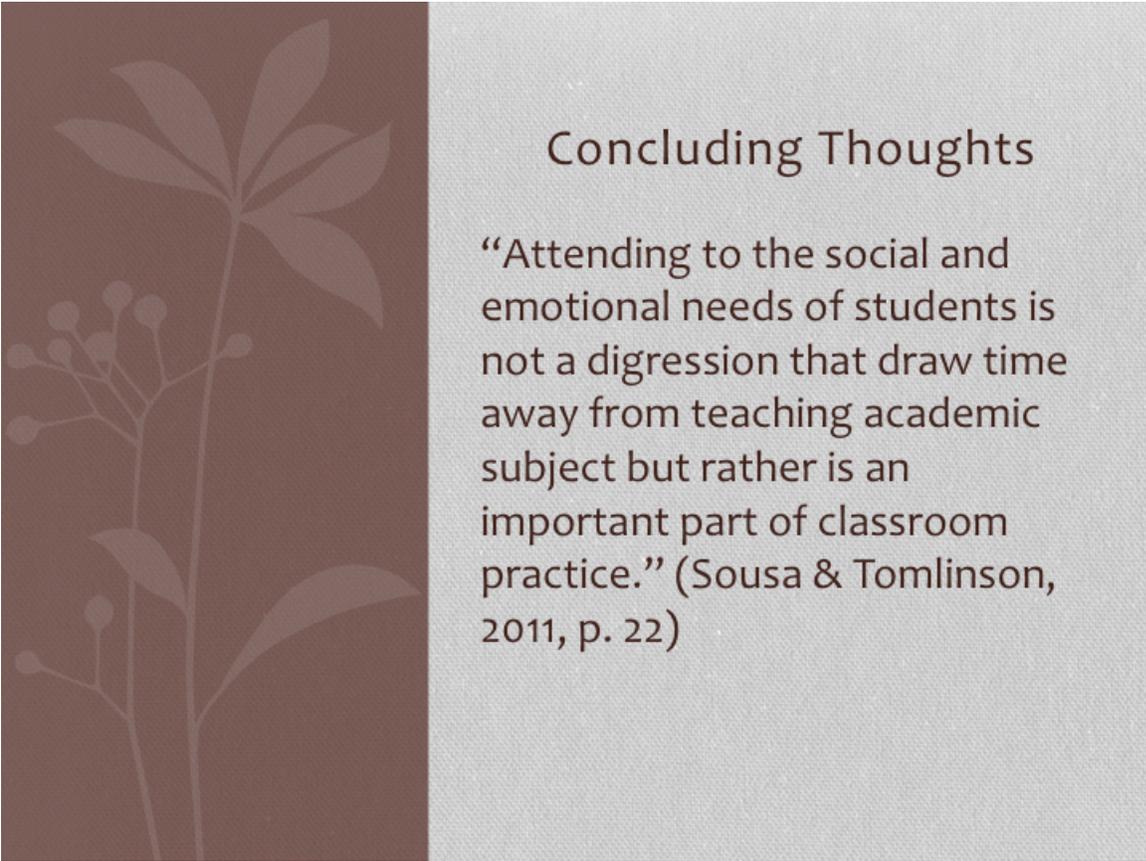
## Assessment for growth: revisiting event stories

Revisiting event stories (Carr, 2011)  
are:

- Photos, videos, journals, portfolios
- Stories children narrate and teachers record about a child's learning
- Child-led
- Prompted by teacher questions (Can you tell me about what you are doing here? Why did you do it this way? What were you most proud of?)



Teachers can use “revisiting event stories” (Carr, 2011) to help children engage in metacognitive thinking. Teachers use artifacts of student learning and prompting questions to help children reflect on their learning. Teachers need to be cognizant of sharing power with children and allowing the child to shape the discussion. This takes practice on the part of the teacher and a willingness to follow the conversation in unexpected directions. Teachers can use revisiting event stories as a means to highlight student growth and strategy use, as well as to focus on future goals for learning.



## Concluding Thoughts

“Attending to the social and emotional needs of students is not a digression that draw time away from teaching academic subject but rather is an important part of classroom practice.” (Sousa & Tomlinson, 2011, p. 22)

Thank you for sharing your thoughts and ideas on supporting children who experience anxiety. As the number of children who experience anxiety increases, classroom teachers and administrators need strategies to support these learners in the classroom. The power of a growth mindset approach (Dweck, 1999, 2006) supports children’s development of positive coping skills toward challenge, increases academic achievement, fosters self-efficacy and positive beliefs in one’s abilities, increases one’s resilience, and supports children’s development of social skills. A growth mindset communicates a belief that every student is capable of learning and growing (Dweck, 2006; Sousa & Tomlinson, 2011). I believe that a growth mindset approach can support children, especially those who experience anxiety, in developing a positive self-view which orients children toward increased success, both in the early years and throughout their academic career.

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### **Growth Mindset Parent Resource**

Dear parents,

Your child is learning about a growth mindset at school. A growth mindset means understanding that intelligence can be changed and ‘grown’ through effort and perseverance. It recognizes that mistakes aren’t failures, but attempts to learn new things and in fact, require often require bravery to try something new. Children with a growth mindset understand that success comes from effort, they are flexible in their thinking, and they persevere during challenges. No one has a growth mindset all the time, but just by understanding what a growth mindset is, students can become more flexible in their thinking.

A growth mindset approach comes from the research of Carol Dweck, a professor at Stanford University. She and colleagues have found that when teachers and parents emphasize effort, children perform better at school and are more motivated to learn.

You can support a growth mindset at home by:

- **Praising effort instead of results:** try sentences such as “you really worked hard at dictee this week” or “you put a lot of effort into your journal writing”.
- **Noticing growth over time:** Help your child to see how much she is growing and learning. Try phrases such as, “Wow! Look at how much progress you’ve made in your journal. I see you’re using capitals to start all your sentences now.”
- **Letting your child lead.** Listen to your child’s interests. They may be different from yours, but you may enjoy trying something new.
- **Reframing failure as challenge.** Find the learning opportunities in challenges and events that didn’t work out as planned. Use mistakes to try different strategies.
- **Modeling a growth mindset.** When you face a challenging situation you can share your feelings and problem-solving with your child.

## Growth Mindset Feedback



Instead of...	Try...
You're so smart.	You put a lot of effort into that. I can see that this part was tricky, but you stuck with it.
You made a mistake.	What did you learn from that experience? What could you do differently next time?
You're the best! You didn't make any mistakes reading that book.	Hmm, looks like that book was too easy. It's important to challenge yourself. Can you pick a more difficult book tomorrow night?
That's ok, you're just not a math person.	Let's work through this together. I know we can find some strategies if we slow down and figure out where you need help.