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How Mindsets Matter: Second Grade, English Language Learners’ Reportings Of Their Experiences With A Growth Mindset Curriculum In Colombia

Amanda Brooks
Hamline University

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How Mindsets Matter: Second grade, English Language Learners’ reportings of their experiences with a Growth Mindset curriculum in Colombia

Amanda L. Brooks

Hamline University
Abstract

This qualitative, classroom action research was conducted in a private bilingual school in Colombia with seventeen participants. The research questions were: 1) How do second-grade Colombian English language learners report changes to their Growth Mindset qualities following a six-week Growth Mindset intervention? and 2) How do second-grade Colombian English language learners perceive their language learning ability following a self-evaluation of Growth Mindset qualities? The research fills a gap in existing literature on three similar topics: Growth Mindset and academic achievement for adolescents and adults, conditional self-worth for children six and younger, and attribution theory and language learning for adolescents. One of the main objectives was to introduce language learning ability as a Growth quality to participants; that is, as malleable attribute that can be controlled and increased through effort, persistence, quality of strategy, and engagement in challenge.

The research methods required participants to take a before-intervention questionnaire, participate in an age-appropriate, six-week Growth Mindset modeled after Blackwell’s et al. (2007) seminal study, and then take the same questionnaire after the intervention. Three participants were chosen to articulate their mindsets in a one-on-one interview.

The data and results indicated diverse results between participants for all three subtopics studied despite nearly no change in students’ average mindsets. The discussion raised many questions as to why students’ results were so diverse and gives suggestions for how to support students in the area of conditional self-worth.
Chapter 1: Introduction

“When we deny the story, it defines us. When we own the story, we can write a brave new ending”

–Brené Brown, 2015

Overview of Topic and Context of Research Site

In August 2015, I began a new adventure by signing a two-year contract to teach second grade English immersion for in a wealthy, private, K-12 school in Valle de Madero, Colombia. While applying for the position, I wrote about how international educators must be flexible, reflective, and adaptable. Little did I know how much I would reflect upon these traits, in both my Capstone project and my daily practice as an educator.

Ironically, the first school day in Colombia began just as I had written in the application essay: with a personal lesson in flexibility, reflection, and adaptability. On this day, I asked the second grade students to complete a paragraph about their summer experiences using sentence frames and vocabulary listed on an anchor chart. I gave several examples, both orally and written, and students shared possible responses with partners. I felt confident that I gave ample English as a Second Language supports, and my five years of second grade immersion teaching experience told me the majority of students would be successful with the task. However, when the students went to their seats for independent work, twenty-four hands went up immediately. “I don’t know what to do,” students remarked. “I don’t understand,” others commented. “What should I copy?” “How do I do this?” The class was abuzz with requests for help. At that moment, I knew I would need to research strategies on cultivating independence, problem-solving, and intrinsic motivation, but I did not yet know I would write my Capstone about students’ experiences with a six-week Growth Mindset curriculum and their reports of how their
effort, persistence, and change of strategy, and beliefs about language learning ability changed following the intervention.

It’s common knowledge within teaching that in any given class, some students enjoy challenge and are intrinsically motivated to problem-solve while other students avoid challenge and resign at the first setback. I have anecdotally observed these traits through my eight years of working with K-12 language learners in both in Spanish and in English. In fact, I have observed both motivation and resignation within and across language-ability groups. That is, some low-ability language learners have been extremely persistent in the face of challenge, while some high-ability language learners have engaged in a variety of maladaptive behaviors to avoid challenge and vise-versa. However, within the context of the Valle de Madero school: wealthy, elite, educated families, the teachers largely report resignation in response to challenge across all grade levels in the English language immersion classes. Research indicates, however, students of Valle de Madero are not the first nor the only students to exhibit this behavior.

The behaviors of motivation and resignation in response to challenge are well-documented in existing studies in education, sociology, psychology, and linguistics. More specifically, Dweck and Leggett (1988) name and define these behavioral responses to challenge in their seminal research on the Growth Mindset that Dweck (2016) continues to refine. Mastery-orientation refers to enjoying challenge and persisting after failure through selecting strategies that increase performance over time. However, helplessness refers to disliking and avoiding challenge, which results in decreased effort and decreased performance over time. The mastery-oriented and helpless behaviors are distinct from intelligence, defined as one’s capacity to acquire and synthesize new knowledge. Most importantly, the mastery-orientation and helpless behaviors are only seen in sufficiently difficult learning contexts where
failure is a distinct possibility; that is, success is not an indication of the mastery orientation if the task did not require effort, persistence, and strategy (Grant & Dweck, 2003). All of these mindsets terms: mastery-orientation, helplessness, effort, persistence, strategy, and intelligence, are central to the present investigation as well as Dweck’s (2012) well-known mindsets theory.

At one end of the mindsets continuum, there is the Growth Mindset, known in psychology as the incremental theory of intelligence. The Growth Mindset refers to the belief that intelligence is malleable, dynamic, and controllable through behavioral choices, such as the aforementioned: effort, persistence, and quality of strategy. Those with a Growth Mindset tend to demonstrate mastery-oriented behaviors and thrive on challenge because challenge, and even failure, is meaningful. Challenge is purposeful because these learners believe challenge mediates learning and learning begets additional learning through increasing neural connections. These same individuals tend to make learning goals, which are goals that focus on increasing competence through strategy. All of these behaviors facilitate the academic and linguistic growth that teachers desire.

The other end of the spectrum is the Fixed Mindset, or the entity theory of intelligence in psychology. However, social psychologists usually view theories of intelligence on a continuum, rather than as a dichotomy. The Fixed Mindset refers to the belief that intelligence, or ability, is inborn and static; it is an entity to be measured and evaluated. These individuals demonstrate the helpless behaviors and a negative aspect in response to challenge; therefore, they often select easy tasks, complain, misbehave, resign effort, and avoid engagement with increasing frequency following each difficulty or failure. These individuals tend to make performance goals which focus on measuring the task outcome. Furthermore, there is a relationship between the Fixed Mindset and emotional fragility. Through the Fixed Mindset
lens, failure indicates lack of ability, lack of ability indicates incompetence, incompetence is connected with worthlessness, and worthlessness most often results in shame and withdrawal to prevent subsequent failure (Dweck & Leggett, 1988).

In general, the mastery-orientation and helpless behaviors are relevant to educators because these behaviors are only shown during challenge, or when students are in their zone of proximal development (ZPD). Educators know that the ZPD refers to academic content that is just above the student’s comfort level. This content is new and challenging, but not frustrating, and pushes students to increase their competency (Berk & Winsler, 1995). In addition, Elementary teachers know that the ZPD will be diverse within any given class. Elementary teachers assume one-third of the class to be above grade-level benchmark, one-third on benchmark, and one-third below benchmark in the core subjects. In order to challenge, but not frustrate, each student, Elementary teachers focus extensively on academic differentiation.

<p>| The Interrelationship between Mindsets, Goal Orientation, Perceived Abilities and Behavior |</p>
<table>
<thead>
<tr>
<th>Theory of Intelligence</th>
<th>Goal Orientation</th>
<th>Perceived Current Ability</th>
<th>Behavior Pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity Intelligence is fixed</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>“Fixed Mindset”</td>
<td>Performance (Goal is to gain positive evaluation or avoid negative judgments of competence, which result in shame)</td>
<td>High</td>
<td>Mastery-oriented (seek challenge; high persistence)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>Helpless (Avoid challenge; low persistence)</td>
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<tr>
<td>Incremental Intelligence is malleable</td>
<td></td>
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<tr>
<td>“Growth Mindset”</td>
<td>Learning (Goal is to increase ability)</td>
<td>High or Low</td>
<td>Mastery-oriented (seek challenge that fosters learning; high persistence)</td>
</tr>
</tbody>
</table>

Burhans and Dweck, 1995
However, the current context, English through content and language integrated learning (CLIL), changes the aforementioned ratios of high/mid/low benchmark learners within the typical class. This is because CLIL requires students to study an academic subject or content theme using a foreign or minority language as the medium for instruction (Seikkula-Leino, 2007). For this reason, one could expect a greater percentage of learners in a CLIL class to perform lower in their L2 than they would in their L1, or in the Dual Language context, perform lower by comparison to L1 classmates learning the same content. For many students, the lower performance can be stressful, frustrating, and perceived as failure. Therefore, Dweck’s (2012) mindsets theory is extremely relevant in a CLIL environment because it presents high challenge with the possibility of failure which initiates the mastery orientation and helpless behaviors.

However, it is important to emphasize the CLIL approach should not be avoided because of the additional challenge. Although additional emotional supports are needed in the CLIL context, research does suggest that language immersion education has greater long-term cognitive and affective benefits than monolingual education (Croft & Franco, 1983). We, as not only Elementary educators, but as language educators, need to look for strategies that support the whole CLIL student: linguistically, academically, emotionally, and psychologically.

One way to emotionally support lower elementary language learners when they fail is to communicate the children’s unconditional self-worth. Unconditional self-worth refers to the child’s perception of their value as a person as unconnected with outcome of their performance. Research suggests teaching unconditional self-worth is an age-appropriate way to teach the Growth Mindset to lower elementary students. This is because this research observes students as young as early preschool to demonstrate the same helpless response to failure associated with
the Fixed Mindset of older students. These same studies theorize some young preschoolers show the helpless response because they perceive the self to be an entity. Consequently, these preschoolers make negative judgments about their contingent self-worth following academic mistakes or after being disciplined, saying things such as “I am bad.” These studies are critically important because applying the Fixed Mindset one’s entire self-perception, not only academic ability, is arguably more emotionally and psychologically damaging to the student (Heyman, Dweck & Cain, 1992; Burhans & Dweck, 1995).

<table>
<thead>
<tr>
<th>Contingent Self-Worth Model of Helplessness</th>
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<tr>
<td><strong>Self-Worth</strong></td>
</tr>
<tr>
<td>Self is conceived as an object of judgment with contingent worth.</td>
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<tr>
<td>Globalization of Fixed Mindset</td>
</tr>
<tr>
<td>Self-worth is unconditional</td>
</tr>
<tr>
<td>Globalization of Growth Mindset</td>
</tr>
</tbody>
</table>

Communicating students’ unconditional self-worth is good practice for all areas of Elementary teaching, but the environment of the current study, English through the CLIL approach, is distinct from other academic subject areas. The CLIL approach may require even additional emotional and psychological supports than other areas. This is because the CLIL approach brings a plethora of cognitive, social, and cultural factors which contribute interrelatedly to language learning motivational theory (Dörnyei, 2003). The most important of
these motivational theories is attribution theory, which is defined as the reason the language learner ascribes to the perceived language learning success or failure (Weiner, 1979). Similar to the previously-defined mindsets (Dweck, 2012), attributions that are stable and controllable, such as effort and quality of strategy, are more often related to perceived language learning successes. However, attributions that are unstable and uncontrollable, such as teacher influence and task difficulty, are more often related to perceived failures (Gobel & Mori, 2007). In contrast to Dweck’s (2012) mindsets theory, attribution theorists perceive ability to be internal and uncontrollable (Gobel & Mori, 2007). Using mindsets terminology, the attribution of ability would be seen through the Fixed Mindset lens, as shown here:

<table>
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<tr>
<th>Dimensional Classification Scheme for Causal Attributions</th>
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<tbody>
<tr>
<td>Attribution</td>
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<tr>
<td>-------------</td>
</tr>
<tr>
<td>Ability</td>
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<tr>
<td>Effort</td>
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<tr>
<td>Strategy</td>
</tr>
<tr>
<td>Interest</td>
</tr>
<tr>
<td>Task Difficulty</td>
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<tr>
<td>Luck</td>
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<tr>
<td>Family Influence</td>
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<td>Teacher Influence</td>
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Chapter 2 will further review the existing literature in order to explain the interrelatedness between and the relevance of mindsets, self-worth, and attribution theory for English learners through a CLIL approach. Chapter 4 will illustrate how the intersection of these three topics may contribute to a motivational framework which fosters increased language learning effort, persistence, and strategy for some second grade Colombian ELL students. The following section will outline my personal connection to the research topic.
Personal Connection to the Research Topic

Selecting the topic of students’ experiences with a six-week Growth Mindset curriculum and their reflections on how their effort, persistence, and change of strategy relates to their language learning is largely motivated by the difference between my current students’ typical response to challenge compared with the six Elementary classes I had previously taught. However, it is also personal because I began the Capstone project at a time when I was frustrated with teaching altogether and considering leaving the profession.

I began my search for a meaningful Capstone topic through reflecting on the critical periods that either lead me into the profession or resulted in a job change. I began my narrative in Chile in 2006 when I became interested in learning and teaching languages. That year, I volunteered alongside a Chilean teacher in an Elementary school in a program called English Opens Doors. Here, I grew passionate about social equity through education, and I learned how the students could improve their earning potential by speaking English only moderately well. After finishing with my study abroad, I returned to my small college town in the Midwest and changed my major to Secondary Education. This required me to withdraw from the Biology and Chemistry courses that were preparing me for medical school, which was a challenge. As I look back, I see clearly how I changed my strategies in order to cope. I became less focused on having perfect grades, and more focused on being prepared to work in my field.

A year-and-a-half later, I had an experience which profoundly oriented my passion within education towards teaching children of Latin American immigrants of low-income. At this time, I began volunteering as a free interpreter for local Spanish-speaking clients, many who worked for the meat-processing plant in the next town over. Our life stories wove together as the clients and I waited for the doctor to enter, telling stories, laughing, recounting the day’s
details, sometimes for upwards of thirty minutes. I met kind, generous, and resilient people. Family people. Loving, empathetic people whose unfortunate circumstances stood in complete opposition to their integrity. However, nothing could have prepared me for the horror of May 12, 2008: the day of the raid of the meat-processing plant.

It is unjust almost for me to write about this day in my narrative; I was a bystander, a witness, at best. But, what I saw testified to the most shameful threads in our country’s fabric, and I have a responsibility to bare them to the public eye as often as possible. I saw a twelve-year-old left as head-of-household; illiterate men coerced to sign in a language they didn’t speak; women handcuffed before their children. There were children wailing, officers yelling, sirens blaring; it was complete pandemonium in the church basement where Red Cross volunteers steered displaced workers inside before they could be arrested by Immigration and Customs Enforcement (ICE) in the parking lot. Like cattle, the workers went; those who did not make it inside the church were pushed by officials straight to a local arena intended for housing livestock while they awaited their makeshift trials. These trials would send them from prison to prison across the United States, and finally back to the Midwest to serve as material witnesses against the plant, before deporting them back to poverty, with nothing but suffering to show to their family in exchange for missing years of their lives.

The day of the raid, I read to Elementary children, some of them my own students, as I was a substitute for the local school district at that time. We made a circle and played games. I found toothbrushes for a family, and passed out diapers. I was full of rage and despair.

Three years later, while writing my educational philosophy for my K-6 license, I reopened the manuscript of the original play, La Historia de Nuestras Vidas, written by one Mexican and six Guatemalan dislocated workers while they awaited to serve as material
witnesses for the trial against the meat-packing plant. I read their hopes, dreams, heartache, and resilience over and over. When I cited Lilla Watson’s (1985) famous quote, “... but if you have come because your liberation is bound up in mine…” in my educational philosophy, I saw not only these individual men’s faces, but I imagined their children’s faces, and extended this vision to the countless unidentified children in my classes facing the same systemic oppression, trauma, abuse, and poverty as these men and their families faced as a result of our failed immigration system. My empathy barely begins to comprehend their narrative, but I desired to do a small part by providing the best education possible to children of low-income, Latin American immigrants.

Unfortunately, I did not fully understand at this time that working with and for others also requires reflection, support, evaluation of one’s strategies, and self-care. Looking back, it is likely I made the same misinterpretation of the Growth Mindset as many make in the first years of my career: just work harder (Dweck, 2016). Believing effort was the answer to challenge, I dedicated all my time and energy to my students with little regard to balance. When my students misbehaved or failed academically, I blamed lack of personal effort, and worked even harder. I devoted the best of myself, teaching English as a Foreign Language (EFL) to fourth graders in Mexico and Spanish and English to first and second graders in a Dual Immersion context in Minnesota. During this time, I also began my Masters of English as a Second Language at Hamline University with the belief that working with small groups of struggling Elementary language learners would be the answer to making a greater impact on individual students’ lives. The underlying premise of every step was that students’ academic or behavioral shortcomings were a result of my lack of effort; if I only worked harder or worked more, I could make the impact I desired.
It distressed me that despite my most valiant efforts, some students continue to engage in a plethora of maladaptive behaviors which serve only to prevent their learning. Therefore, a year ago, I came to the exhausting realization that I would not make more lasting change by simply working harder. I felt a deep disconnect between my passion for education as a path for social justice and the countless observations, behavior plans, parent/administrative meetings, and follow-up reports I was completing for the same children I wanted to impact most. At this moment, I approached a fork in the path of my professional narrative: I could either fruitlessly continue on the same path, leave teaching altogether, or make a temporary change. Therefore, I decided to move to Colombia to regain balance, finish my Master’s degree, travel, and have time to reflect. The following section will explain in detail the participants and the research site.

**Relevance of Topic to the Participant Demographic and Research Site**

Before beginning at the private, elite school in Colombia, I erroneously predicted that the lack of poverty and systemic inequities for the student population would correlate with a significantly greater percentage of intrinsically motivated behaviors that facilitate individual language growth. I predicted behavior management would be minimal, and I was looking forward to focusing solely on the ESL academic strategies I had learned in my Master’s classes. Therefore, I was particularly unprepared as an entire class of twenty-four wait for my step-by-step direction on the first day of class.

Right away, I had many conversations with colleagues who had taught in Colombia longer than I regarding the reason behind students’ apparent lack of independence. Colleagues’ perceptions ranged from Colombia being a more collaborative culture to the wealthy students having grown accustomed to relying on assistance from household staff. Regardless of the reason for the behavior, I assumed the challenge, and fell into the lie that if only I worked
harder as a teacher, I could alone resolve the behavior. Therefore, I worked to form small
groups for individualized instruction, but felt resentful and miserable when those interventions
resulted in increased teacher dependence, especially for the most fragile learners.

Frustrated and negative, I began my Capstone research by reading about strategies on
creating a classroom culture that encourages risk-taking, normalizes mistakes, finds challenge
engaging, and perceives learning as inherently valuable. Through my research, I hope to receive
the gift of introspection in regards to my faulty belief of “work more, work harder.” I predict I
will learn more about how those ideas negatively affect me as a person and how my reactions
carry over into my teaching practice. It is a relief to learn Dweck (2016) explains a common
misinterpretation of the Growth Mindset is to blame failure on the individual for not working
hard enough, but hard work is only one strategy associated with the mastery orientation. In
addition, Dweck (2016) details how adopting a Growth Mindset never promises complete
success or the absence of problems, but rather frames setback as an opportunity for
improvement. In addition, Dweck (2016) explains that one adaptive response to failure can be
abandoning the current strategy and taking a break in order to give the learner time to reconsider
other problem-solving options. Lastly, Dweck (2016) strongly encourages learning new
strategies by collaboration and teamwork.

The more I read about the Growth Mindset, the more I am able to put myself in the
emotional position of my current English language learners. I feel strongly about teaching the
Growth Mindset to all language learners, because the belief that ability is increasable relieves
students of the shame associated with failure following effort. As previously mentioned, since
language learners undoubtedly experience setbacks along their journey to proficiency, it is
important teachers provide them with emotional and psychological supports for how to respond.
Because perceiving effort as the only pathway to success contribute to my negative feelings towards teaching and my desire to leave the career, it aligns with existing research on the Growth Mindset (Dweck and Leggett, 1988) that viewing effort as the only pathway to language learning success will likely result in feelings of incompetence, shame, withdrawal from the process following repeated failures.

Selecting a Capstone topic that is of personal interest, relevant to language learning, but also highly relevant to the participant demographic is important. To accomplish this, reflected on the socioeconomic background of my current students and engaged in intentional conversations with colleagues about strategies to best serve easily-resigned children with many resources. First, it appears learning English is most likely perceived as a hobby, not a necessity because students have a plethora of extracurricular activities, ranging from ballet to windsurfing, which often take precedence over schoolwork. More specifically, students frequently miss school for vacations and state over-scheduling as a reason for homework incompletion. In addition, approximately half of the study’s participants are only children, but nearly all of the participants report that their normal out-of-school experiences includes household staff, chauffeurs, lavish parties, and vacations to the United States and Europe.

In addition, according to anecdotal reports from colleagues with several years of experience at research site, K-12 success may not be a requirement for college and career readiness for students at this school. Colleagues explain this is because underachieving students most likely will attend college and enter the workforce without issue regardless of their academic record. Colleagues explain that when student’s K-12 academic record is below expectations, parents often pay full tuition for a private college and then use their network after
the child’s college graduation to help the student obtain a respectable position with a decent salary.

These anecdotal observations may be reasonable after analyzing the magnitude of the participants’ economic advantage by comparison to the current socioeconomic statistics of an average Colombian. The private school has the largest library in the entire department (state) in Spanish, not to mention English. In addition, students graduate twelfth grade with a dual diploma in Colombia and the United States and all of the 2016 graduating class went on to postgraduate studies. By contrast, only 2% of Colombia’s entire population leaves secondary school bilingual in English and Spanish (Amat, 2014). More relevant, while the poverty rate of the department of the research site has remained comparatively low at under 20% for past two years, the income disparity for the department is substantial. In this department, the Gini Index, a statistical measure for quantifying equality, is nearly 0.50. According to the Gini Index, 1.0 represents complete inequality and 0.0 represents complete equality (Ortiz Castaño, 2015). To put this figure into perspective, the Gini coefficient of Colombia as country in 2012 was 0.53; Slovenia in 2012 was the reported lowest at 0.23; and South Africa, the reported highest in 2013 at approximately 0.63. Therefore, the economic achievement gap is wide, perpetuated in part by advantaged students spending over eight hours daily in school, while less advantaged students spend less than five. In addition, schooling is only compulsory until 9th grade (Amat, 2014), which gives a distinct advantage to the twelfth-grade graduates of the school where the study takes place.

\footnote{Data obtained by The World Factbook (2016) by the Central Intelligence Agency (CIA)}
More positively, the aforementioned statistics demonstrate that the participants of the research I will conduct will most likely be in a strong position to lead their community if they so desire. For this reason, motivating these students to become as bilingual and educated as possible may be an indirect advantage to the growth of the community at large.

To further this line of thought, it is likely the Colombia that will await the second graders of this study on their 2027 graduation date will be a much different society than today. This is because Colombia remains dedicated to educational advancement. In fact, the Colombian Secretary of Education, Gina Parody, describes government’s dedication to making Colombia the most educated country by 2025 through reducing illiteracy to below 4%, a rate which would declare the country free of illiteracy by the standards of the United Nations Educational, Scientific, and Cultural Organization (UNESCO). In addition, Parody calls for compulsory schooling until 11th grade, increased teacher education levels, and increased bilingualism through increasing the number of native English professors in bilingual teacher training programs (Amat, 2014). Based on Parody’s aforementioned goals, it is reasonable to presume the requirements for college entry and graduation will be more rigorous and competitive in 2027.

In conclusion, due to present observations of student motivation, the greatest need appears to be persuading these specific students that language learning requires the mastery orientation; it requires Growth Mindset qualities: embracing challenge, feeling uncomfortable, trying a variety of strategies, and oftentimes failing before succeeding. My challenge of flexibility, reflection, and adaptability has become: how do I persuade my students that Growth Mindset qualities are essential to learning English? How do I inspire students to be actively engaged in their full-time English immersion school which has a monthly tuition rate of over
twice the monthly minimum wage (Arias Jimenez & Ortiz Castaño, 2015)? How do I impart that these same Growth Mindset qualities are inherently valuable when the students’ out-of-school narrative teaches no work and easy rewards? These questions are what ultimately motivated me to select the Growth Mindset as a Capstone topic for these particular English-language learners in a CLIL context. The Growth Mindset encourages students to use their elite bilingual school as a personal resource for increasing their language learning ability, and reflecting on how their efforts, persistence, and change of strategy relates to increasing growth as a language learner. The following section will outline the research gap.

**The Research Gap**

The study at hand will address a gap in the existing research on the Growth Mindset through focusing on lower elementary, ELL students in a CLIL context. My investigation reports students’ experiences with a Growth Mindset intervention, and students report changes to their effort, persistence, strategy, and mastery orientation following the intervention.

The research gap is found in the intersection between three conceptually similar topics: 1) mindset theory and academic achievement for adolescents 2) psychological relevance of behavioral responses to failure for two to six year-old children 3) attribution theory and language learning outcomes for adolescents. My research adds depth to existing quantitative and qualitative studies on the three aforementioned topics through using qualitative classroom action research focused on the experiences of participants in their everyday classroom setting.

My investigation fills research gap in three specific ways:

The first part of the research gap is the age of the participants of existing studies. I fill this gap by having seven and eight-year-old participants. Existing research that uses the term
“Growth Mindset” has focused on the relationship between mindsets and academic achievement in mathematics, career-oriented tasks, or experimentally-manipulated tasks for students and adults older than nine years of age (Dweck & Leggett, 1988; Blackwell et. al., 2007; Dweck & Mueller, 1998; Grant & Dweck, 2003). This part of the research gap is significant because second graders’ age falls between the previous research the behavioral responses to failure for children aged two to six (Heyman et al., 1992; Burhans & Dweck, 1995) and mindsets theory and academic achievement for participants older than nine (Dweck & Leggett, 1988; Mueller & Dweck, 1998; Grant & Dweck, 2003; Blackwell et al., 2007).

The second part of the research gap addresses disagreement in the literature about whether second grade students can conceptualize ability as apart from the self and whether this distinction is necessary in order to teach the Growth Mindset to the age group. I will fill this part of the research gap by including self-worth in my Growth Mindset questionnaire and curriculum and asserting that whether or not young children can conceptualize ability, it is still critically important to teach the Growth Mindset to lower elementary children. Existing literature on lower elementary students’ capacity to conceptualize ability does not use the term “Growth Mindset;” instead, this literature approximates mindsets through the terms self-efficacy, self-worth, persistence, and mastery orientation. These existing studies indicate that while children aged two to six show the same behavioral responses to failure as students older than nine, it is uncertain as to when a child can fully conceptualize ability as apart from the self (Heyman et al., 1992; Burhans & Dweck, 1995; Schunk, 2003; Liew et al. 2008; Child Trends, 2014; Yung & Jonson-Reid, 2016). However, as previously stated, Heyman et al. (1992) and Burhans and Dweck (1995) argue that young children’s questionable capacity to conceptualize
ability as apart from the self is what makes the Fixed Mindset especially damaging for these learners.

The third part of the research gap is the lack of existing research on the Growth Mindset and language learning for elementary students. I fill this part of the gap by using exclusively elementary English language learners in a CLIL setting. I found no existing research on mindsets and language learning for elementary students, especially in an immersion setting. Mindsets research in regards to language learning is almost exclusively limited to secondary or University students in a traditional second language class. Like the study I conducted, existing studies on mindsets and language learning use questionnaires and interviews, but some of these studies also use teacher-reported proficiencies and student grades. These University studies measure the relationship between students’ beliefs of the causes for language learning success and students’ class performance (Mori, 1999; Mercer & Ryan, 2008). In addition, there exist some studies on attribution theory and language learning, but these studies use adolescent participants (ages 11-16) and assume ability to be fixed, stable, uncontrollable attribution for learning outcomes. Using mindsets terminology, they assume ability to be a Fixed attribution (Williams, Burden, Poulet & Maun, 2004; Gobel & Mori, 2007; Pei-Huasn Hseih & Kang, 2010). Although one older study reported a positive correlation between immersion education and academic achievement and self-concept for Elementary students (Croft & Franco, 1983), the study was very short and gave no mention to mindsets.

My Capstone combines existing literature on the three aforementioned topics with Chapter 4’s results in order to assert a short, age-appropriate Growth Mindset intervention which frames language learning ability and learner self-worth as malleable, dynamic, and controllable variables is invaluable for seven and eight-year old, English-language learners in a
CLIL context. The contributions of the study to the participants will be discussed in Chapter 5. The following section will describe my research questions in detail.

**Research Questions**

The purpose of this Capstone is to record and reflect upon the experiences of wealthy, easily-resigned second-grade, English language learners in a CLIL setting with a six-week Growth Mindset curriculum. The Capstone will report students’ reflections on how their effort, persistence, and change of strategy relates to their English language learning. The Capstone has a secondary purpose of prompting elementary language educators and parents to see the value in teaching the Growth Mindset to elementary language learners.

The research questions are as follows:

1. How do second-grade Colombian English language learners report changes to their Growth Mindset qualities following a six-week Growth Mindset intervention?
2. How do second-grade Colombian English language learners perceive their language learning ability following a self-evaluation of Growth Mindset qualities?

The current study might give educators insight on strategies for cultivating independence and intrinsic motivation for young language learners who depend on teacher guidance too frequently. In addition, the study I conducted may encourage language learners students to view setback as a necessary step towards long-term language proficiency instead of failure. The intervention may introduce language learners to a healthy self-image which separates performance from ability and self-worth. Finally, the Growth Mindset intervention may encourage language learners to set future learning goals, rather than performance goals,
which include embracing challenge and striving for personal, rather than evaluative, growth outcomes.

The plan of the paper is as follows: first, I will review existing literature; next, I will outline the methods of the investigation I conducted, after, I will state the results by summarizing and explaining the data; finally, I will discuss why the results are meaningful in relationship to the existing literature and the research question.

The succeeding section will summarize the objectives of the present investigation through reviewing and analyzing existing studies in psychology, sociology, education, and linguistics on the three topics previously described in the research gap. Chapter 2 will show how the study I conducted aligns with recent and seminal research.
Chapter 2: Literature Review

Introduction

Although the study I will conduct is the first to record students’ experiences with a six-week Growth Mindset curriculum and their reports of how their effort, persistence, and change of strategy, and beliefs about language learning ability changed following the intervention, the study integrates abundant existing research in general, educational, and social psychology and linguistics on three conceptually similar topics, as discussed in Chapter 1. First, there is prolific research on the strong, positive correlation between the Growth Mindset and academic achievement or task-mastery for monolingual English learners older than nine. This research includes correlations between the Growth Mindset, and both general and domain-specific achievement for Upper Elementary (grade 5) through University students. In addition, this research uses diverse instruments and methodology to show that students’ Mindset is predictive of their subsequent cognitive, affective, and behavioral reactions to perceived failures (Dweck & Leggett 1988; Mueller & Dweck, 1998; Grant & Dweck, 2003; Blackwell et al., 2007).

Second, researchers have observed the same mastery-orientation and helpless responses to failure in preschool and lower elementary students as shown by the older students (Heyman et al., 1992; Burhans & Dweck, 1995, Liew et al. 2008, Yung & Jonson-Reid, 2016). Therefore, researchers have approximated mindset theory through studying self-efficacy, self-worth, persistence, and mastery orientation. Three investigations I will review focus on the relationship between academic self-efficacy, self-concept and literacy growth for first through third grade students (Schunk, 2003; Liew et al. 2008; Yung & Jonson-Reid, 2016) while two other studies examine the relationship between the condition of students’ self-worth and students’ behavioral response to failure for five through seven year-olds (Heyman et al., 1992; Burhans & Dweck,
Both ideas add depth to the topic for the lower elementary age group, but the self-worth research most closely aligns with Mindset theory because the researchers postulate that students with contingent self-worth, or the belief that the self is an entity to be evaluated as good vs. bad, globalize the framework of the Fixed Mindset (Heyman et al., 1992; Burhans & Dweck, 1995).

There are even fewer studies which interrelate the Growth Mindset, lower elementary students, and language learning. Those that do exist have focused on adolescents (ages 10-16) and adults. Although it is argued EFL/SLA is a unique academic domain due to the interplay between the learner’s cognition with their social and cultural identity (Williams et al., 2002; Dörnyei, 2003), the mastery orientation and helpless response perceived failure (Dweck & Leggett 1988) are observed in EFL and L2 learners ages ten through University in both Eastern and Western cultures. These limited studies explain language learners’ behavioral reactions to failure in terms of the reason the learner ascribes to the success or failure (Williams & Burden, 1999; Williams et al., 2002; Williams et al., 2004; Gobel & Mori, 2007; Hsieh & Kang, 2010). The reason the learner ascribes to the outcome is known as Attribution Theory in general psychology (Weiner, 1979). These studies use comparative statistics and/or qualitative methods to show that successful and unsuccessful learners attribute their language learning outcome to different factors, depending on age and cultural background. Learner attributions of outcomes is comparable to mindset theory because internal, controllable attributions, such as: effort, strategy, and interest are predictive of subsequent successes, but the internal, uncontrollable attribution of low ability (Weiner, 1979) is predictive of lowered self-efficacy and poorer subsequent performances (Williams & Burden, 1999; Williams et al., 2002; Williams et al., 2004; Gobel & Mori, 2007; Hsieh & Kang, 2010). However, attribution theory as a motivation of language learning also has its limitations for my research. Most importantly, attribution
theory perceives ability as a fixed entity; also the previous research has been done in traditional language learning courses instead of content and language integrated classes.

Each of the three aforementioned conceptual ideas will be detailed through summarizing the existing literature in order to later provide a rationale for understanding students’ responses to the research questions:

1. How do second-grade Colombian English language learners report changes to their Growth Mindset qualities following a six-week Growth Mindset intervention?

2. How do second-grade Colombian English language learners perceive their language learning ability following a self-evaluation of Growth Mindset qualities?

The ensuing section will describe research which points to a strong, positive relationship between the Growth Mindset and academic growth in children older than nine.

**Mindset Theory and Academic Achievement for Adolescents and Adults**

There is abundant research on the relationship between the Growth Mindset and academic or cognitive improvements for monolingual English learners older than nine. In addition, there are a significant number of studies that report a strong, positive relationship between the Growth Mindset and the positive aspect, such as enjoyment of the class or task. Furthermore, considerable studies positively relate mindsets with students’ selection of goals: learning (process-oriented) or performance goals (product-oriented). These same studies also cite students’ mindsets as a cause of either the mastery-oriented or helpless behavioral response to failure, creating a reciprocal relationship between mindset, affect, goal choice, behavioral response, and subsequent academic or cognitive outcomes. Each outcome further affirms the mindset, resulting in persistence or resignation of effort (Dweck & Leggett 1988; Mueller & Dweck, 1998; Grant & Dweck 2003; Blackwell et al., 2007).
Research shows that already having, overtly learning, or receiving inferential feedback on the Growth Mindset can increase student academic achievement or performance on cognitive tasks. This is shown in both in the short term and long term (Dweck & Leggett, 1988; Mueller & Dweck, 1998; Grant & Dweck, 2003; Blackwell et. al., 2007; Paunesku, Walton, Romero, Smith, Yeager & Dweck, 2015). These findings are consistent in experimentally-manipulated and observational contexts as well as one-time, short interventions and longer, more extensive interventions.

In one of the seminal studies on Growth Mindset and task-mastery, Diener and Dweck observe the difference in puzzle-solving performance between two equally capable groups of fifth graders immediately following failure. Before the study, researchers measured the likelihood each student would display the mastery-orientation or the helpless response, and labeled students in two groups. Then, the fifth-graders were given eight possible puzzles to solve followed by four impossible ones. Following the second set, students were given only one possible puzzle to solve, and researchers observed their problem-solving reactions. More than two-thirds of the helpless response students showed a decrease in their puzzle-solving performance, and 60% of these same children utilized different, useless strategies more indicative of preschool than upper elementary. By contrast, 25% of the mastery-oriented children improved their strategy from the first set (as cited in Dweck & Leggett, 1988, p. 257).

Later, Dweck and Mueller (1998) broaden their work, using a similar research design to find how students’ perceived reasons for failure affects their subsequent task performance. However, in this study, researchers manipulated, rather than compared, students’ mindsets through researcher feedback. As Diener and Dweck’s original puzzle study, this seminal work is recounted in Dweck’s current books and lectures (Dweck, 2012; Dweck, 2016). Here,
researchers assessed students’ mindsets through labeling students’ reported task goal choice as indicative of the Growth or Fixed Mindset. Dweck and Mueller (1998) argue goal choice is a behavioral outcome of mindsets through referencing Dweck and Leggett’s (1988) studies. Again, students with the Growth Mindset tend to select learning goals; these students select the framework for reacting to events that is process-oriented, and they focus on increasing competence through self-monitoring learning strategies. For these learning goal students, effort is perceived as a learning strategy, and high effort indicates mastery. This is called the positive theory. By contrast, students with a Fixed Mindset tend to select performance goals, which are product-based and focused on measuring abilities through evaluating the outcome of the task. Effort is seen through the lens of the inverse theory; that is, high ability requires low effort, and low ability requires high effort (Dweck & Leggett, 1988; Grant & Dweck, 2003).

After outlining the relationship between mindsets and goal choice, Dweck and Mueller (1998) were able to discuss the relationship between mindsets and task performance through comparing student goal choice with student task performance after failure. In this study, fifth-graders were asked to solve ten possible matrices. Following the tenth matrix, students were given learning-oriented praise (“Good work. You must have tried hard”) or performance-oriented praise (“Good work. You must be good at this”). All students were told they scored well, regardless of their actual score. Then, students chose a matrix-completion goal, each of which was indicative of a different goal type (learning vs. performance). Next, students were given a set of matrices that were impossible. Finally, students were given a third set of possible matrices. Students praised for intelligence demonstrated a decline in their performance, while students praised for effort increased their performance by 1.21 matrices out of ten in the third set.
Following Mueller and Dweck’s (1998) study, Blackwell et al. (2007) quantify the relationship between Growth Mindset and longitudinal growth for mathematics students from the start of their seventh to the end of their eighth grade year. These researchers quantify mindset as a single, integrated statistical variable which includes students’ self-evaluation of: theories of intelligence, goals, effort, and mastery vs. helpless response as determined by a questionnaire and interview responses to hypothetical failure situations. Researchers were able to integrate these four motivational variables as one because they found a strong, positive correlation between all of them. The subject, mathematics, is significant because it is likely to create a failure situation which triggers the mastery-oriented and helpless response behaviors indicative of mindsets (Grant & Dweck, 2003).

In this study, the seventh-graders completed the Likert-type questionnaire and interviews at the start of the year to assess aforementioned integrated variables. Then, researchers tracked student growth in mathematics by a standardized test administered twice per year. They performed statistical analyses between the motivational variables (Growth Mindset) and achievement in mathematics. They find that having Growth Mindset predicts higher math grades and increased growth in mathematics, even after controlling for initial (sixth grade) achievement and differences in math teachers between cohorts. Because this study was conducted using actual classroom situations and data, it adds depth to the previous cognitive task studies. All three of the aforementioned studies strongly suggest that having a Growth Mindset positively relates with increased achievement and cognitive performance.

Just as Blackwell et al. (2007) argue the Growth Mindset predicts increased achievement, many studies describe the relationship between the Fixed Mindset and the negative aspect: increased anxiety, decreased motivation, boredom and disengagement.
Likewise, these same studies outline the connection between the Growth Mindset and student-selection of learning goals and a positive aspect: intrinsic motivation and embracing of challenge (Blackwell et al., 2007; Dweck & Leggett, 1998; Grant & Dweck, 2003; Mueller & Dweck, 1998).

In their study on fifth-graders’ puzzle-solving performance following failure, Diener and Dweck (cited in Dweck & Leggett, 1998, p. 258) use researcher observation of students’ spontaneous reactions as the students attempt the third solvable puzzle, which was immediately following the puzzle failures. Here, the mastery-orientation and helpless behavioral responses are observed. The mastery-oriented students spoke of task-related strategy and self-instruction, but the helpless response children reported boredom, dislike of the task, and anxiety about their performance. Furthermore, many mastery-oriented children engaged in positive self-talk; one child even stated, “I did it before, so I can do it again.” On the other hand, many helpless response children expressed doubt in regards to their ability. Some helpless response students even self-aggrandized task-unrelated successes and blamed the rules of the task in a post-performance interview.

Similar results are found in Dweck and Elliot’s study (Dweck & Leggett, 1988, p. 259) which experimentally manipulates students’ self-efficacy of their task ability and perception of the task’s value. Here, researchers gave an assigned pre-test feedback (high or low score) and manipulate students’ goal orientation by communicating either the value of the skill (learning goal) or the evaluation of the task (performance goal). Then, students were asked to choose one task; each task was indicative of either a performance or a learning goal. As hypothesized, students who had been oriented to the value of the skill chose difficult tasks regardless of their task ability as communicated through pre-test feedback. This choice is most likely attributed to
students’ value of the benefit of challenge on learning. However, students oriented to the evaluation of the task chose a variety of tasks. Students with a low self-efficacy (low pre-test score) tended to select an easier task that ensured mastery but did not permit learning. Students with a high self-efficacy (a high pretest score) for the task tended to select a harder task that ensured researcher approval.

Why would some students with the same, low pre-test score select an easy task while others select a hard one? In the same seminal study, Dweck & Mueller (1998) argue that praise for intelligence leads children to want to continue looking smart while praise for effort leads children to want to try new things. Furthermore, Mueller and Dweck (1998) designed portion of their study to allow fifth-graders to write a letter to same-grade students at another school describing the matrix task they had previously completed. Half of these students had received praise for intelligence and half of the students had received praise for effort prior to their completion of the last set of matrices. In their letters, 38% of the students praised for intelligence exaggerated their scores, while only 13% of students praised for intelligence did so. In fact, the students praised for intelligence raised their score on average by a half point on a ten-question task. Mueller and Dweck (1998) argue that the students who believe that tasks can measure intelligence go to extreme measures to avoid shame, such as lying to a group of children who they are certain to never meet.

Avoidance of shame is a powerful, but maladaptive affective motivator. Fixed Mindset students believe their performance on a task is indicative of their intelligence, so they behave in predictable, self-harmful ways. Dweck and Elliot (cited in Dweck & Leggett, 1988, p. 260) extended their study to secretly give all children the same task after students had made their initial goal choices. Students demonstrated the same emotional affect related to mastery-
oriented and helpless behaviors that Diener and Dweck (p. 257) relate. Learning goal students, regardless of their pre-test score, demonstrated mastery-orientation behaviors. However, performance goal students appeared to rely heavily on their self-perceived ability which had been experimentally manipulated. Students with a high self-efficacy and who had “chosen” the harder task initially demonstrated mastery-orientation behaviors; students with a low-self efficacy and who had “chosen” the easier, risk-free task demonstrated helpless response behaviors and a negative aspect towards themselves and the task. Dweck and Elliott note that the majority of the performance goal students tended to sacrifice learning opportunities in order to maintain task a high performance (cited in Dweck & Leggett, 1988, p. 259).

Grant and Dweck (2003) extends research on the maladaptive behavior of sacrificing learning opportunities based on goal orientation in two investigations. The first correlates the relationship between University students’ goal types (obtained through a questionnaire) with projected response to a hypothetical high-stakes failure. Researchers find results of this study to be consistent with previous findings; learning goals correlate with planning (.57) and negatively correlate with withdrawal of effort and time (-.40) after the hypothetical failure. However, performance goals correlated with loss of intrinsic motivation (.29) and withdrawal of effort and time (.32). In addition, the correlations indicate that performance goals related most strongly to rumination and loss of self-worth.

In the second investigation, researchers observe the relationship between University students’ perceived subject-specific ability and course grade in a high-difficulty, high-stakes course, General Chemistry. Data was obtained through student interviews and analysis of course grades before and after the final exam. Student attitudes and behaviors support the data obtained twenty years prior (cited in Dweck & Leggett, 1988, p. 259). Learning goals positively
predicted course grades for both low and high reported self-efficacy in Chemistry. Grant and Dweck (2003) suggest this may be attributed to these students’ study techniques that foster deep processing of the material. These study techniques were only reported to be associated with students who prefer learning goals. As hypothesized, performance goals predicted lower grades, but only after repeated failures. The researchers attribute this variance within performance goal-students to the students’ belief that course grades are indicative of Chemistry ability. If students score high, they will receive a temporary boost of confidence. However, the most fragile students, those with low self-efficacy, performance goals, and poor grades, most likely attribute each subsequent low grade to a greater indication of their lack of ability. Then, they fall into the helpless response and perform worse.

Fortunately for teachers, research shows the Growth Mindset can be taught, even in very short-term interventions. Using a treatment/control design, Blackwell et al. (2007) randomly chose half of the seventh-grade students to participate in an eight-week intervention which primarily summarized neuroscientific research which supported that intelligence is malleable, dynamic, and controllable through learning. However, the other half, the control group, only learned about the brain and memory. After each lesson, all students took a multiple-choice lesson content quiz, and the treatment group scored significantly higher on the quizzes, which indicates the intervention was comprehended. Growth Mindset was measured before and after the intervention through a motivational questionnaire about theories of intelligence, learning strategies, effort, and hypothetical responses to a failure situation. Growth in mathematics was assessed by reviewing sixth grade spring (study initial) and seventh grade spring (study final) math grades.
Statistical analysis indicated the treatment group had significant changes to their theories of intelligence, and students who had initially reported the most Fixed Mindset made the greatest change. In addition, researchers created a statistical knot in order to graph student grades before and after the intervention. Before the intervention, all students had declining grades; however after the knot, the treatment group demonstrated a significant increase in their math grades while the control groups’ grades continued to decline. Most significantly math teachers blindly cited 27% of the treatment group to have shown an increase in motivation and learning strategies, while the teachers only cited 9% of the control group to have done so. The research at hand will adapt Blackwell’s et al. (2007) research design by analyzing the impact of a short Growth Mindset intervention on lower elementary English language learners.

Research on the Growth Mindset and academic achievement strongly suggests a cyclical relationship between the interrelated variables of mindset, affect, goal type, behavioral response to failure, and self-efficacy and academic achievement. This research suggests the most fragile students are low-achievers who believe the outcome is indicative of their static cognitive ability. These learners most easily fall into a downward spiral of negative aspect, low self-efficacy, decreased motivation, and eventual withdrawal of effort (Dweck & Leggett, 1988; Mueller & Dweck, 1998; Grant & Dweck, 2003; Blackwell et al., 2007). However, Blackwell et al. (2007) shows teachers can influence students to adopt a Growth Mindset with even a short intervention, and the students’ increasing academic achievement will propel students towards continued academic growth through intrinsic motivation. In this way, Blackwell et al. (2007) insist that the seventh graders who had or adopted a Growth Mindset were motivated by the results of their efforts, and therefore made more learning goals, which encouraged additional positive motivational patterns and useful studying strategies, which resulted in higher grades, a
positive aspect, and additional effort and persistence. This positive cycle illustrates the foundation of Growth Mindset theory for adolescents and adults: learning begets learning. However, studies on the Growth Mindset, such as Blackwell’s et al., (2007) do not use lower elementary participants. The next section will review studies that conceptually approximate the Growth Mindset, such as self-efficacy and self-worth, and describe the psychological relevance of behavioral responses to failure for lower elementary students.

**Psychological Relevance of Behavioral Response to Failure for Lower Elementary Students**

Although there are many studies that describe the relationship between the Growth Mindset and increased academic achievement for students older than nine and adults, there are very few studies that explain differences in student responses to task failure for preschool through lower elementary students. Perhaps the lack of research on the relationship between Growth Mindset and academic achievement for this age range can be explained because the topic requires students’ to understand ability apart from the self as a whole. Research on young children in the last fifteen years is uncertain when exactly children develop their cognition of ability. However, researchers agree that young children display a range of behaviors, many of which mirror the mastery orientation and helpless response Dweck and Leggett (1988) report in older children (Heyman et al., 1992; Burhans & Dweck, 1995; Schunk, 2003; Liew et al. 2008; Child Trends, 2014; Yung & Jonson-Reid, 2016). This range of student behavior is attributed to a variety of non-cognitive aspects, such as domain-specific self-efficacy and general academic self-concept (Yung and Jonson-Reed, 2016; “Child Trends,” 2014; Liew et al., 2008; Schunk 2003). However, Heyman et al. (1992) and Burhans and Dweck, (1995) argue self-worth, not self-efficacy, is most probably the primary behavioral motivator for lower elementary students.
They explain how the mindsets theory may be magnified, not minimized, for lower elementary students precisely because these learners have yet to fully comprehend ability.

It is well-established that by age nine, students show a clear aspectual and behavioral response to failure which has been quantitatively linked to their mindsets. Following failure, Fixed Mindset students demonstrate the negative affect: anxiety, disengagement, and boredom, and fall into the helpless response, and Growth Mindset students view the setback as a challenge and show mastery-oriented behaviors, such as effort, persistence, and change of strategy (Dweck & Leggett 1988; Mueller & Dweck, 1998; Grant 2003; Blackwell et al., 2007). However, research is inconclusive as to 1) when students can cognitively understand intelligence and ability and 2) how important it is for researchers to know if students can conceptualize intelligence. Furthermore, research is inconsistent in regards to at what age students can self-evaluate their abilities and efforts (Heyman et al., 1992; Burhans & Dweck, 1995; Schunk, 2003; Liew et al. 2008; Child Trends, 2014, Yung & Jonson-Reid, 2016).

Research on self-efficacy and academic achievement rests on the assumption that first through third grade students can at least moderately conceptualize intelligence and ability. However, Yung and Jonsen-Reed (2016) cite students’ age as a limitation of their study. They explain that although they have found self-efficacy to be predictive of literacy achievement, the magnitude of the relationship is smaller than previous studies on self-efficacy and academic achievement (Yung & Jonson-Reid, 2016).

Likewise, Liew et al. (2008) use second graders’ self-evaluations of their perceived abilities in literacy and math as a method for measuring a longitudinal relationship between first grade effortful control and third grade reading ability. However, these researchers use other measurements, as well. Given two of the three measurements do not rely on the child’s self-
evaluation and the three measurements are positively related, it can be concluded that second graders’ self-evaluations most likely are adequately introspective. In addition, the teachers’ ratings and student self-evaluations are similar. Furthermore, a longitudinal statistical relationship exists between researcher observation of high (teacher-rated) effortful control in first grade, students’ self-evaluations in second grade, and increased standardized reading achievement in third grade for the same students. However, others argue only students in third grade and older self-evaluate on the non-cognitive skills of mastery orientation and academic self-efficacy. This argument is that mastery orientation and academic self-efficacy require a self-awareness of which K-2 students are not yet capable (Child Trends, 2014). It is important to note Child Trends\(^2\) (2014) uses secondary research; Liew’s et al. (2008) primary research is cited by the organization.

Regardless whether or not lower elementary students are able to conceptualize and self-evaluate ability, children as young as age two demonstrate the same mastery-oriented and helpless responses in the face of task failure as the children older than nine. (Heyman et al., 1992; Burhans & Dweck, 1995). The following three studies illustrate how some preschool through first grade students react to failure with the helpless response while others persist.

In all three of the subsequent studies, the children were asked to complete four puzzles; the first three puzzles were too difficult and the fourth was solvable. In the first study, children attempted all puzzles and were asked which puzzle they wanted to repeat. The Persisters (sic) chose to repeat an unsolved puzzle, while the Non-persisters (sic) chose to repeat the solved puzzle despite that no child had a superior “puzzle-solving” ability than another child. Thirty-

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\(^2\) Child Trends self-identifies as “the nation’s leading nonprofit research organization.” The organization’s focus is on research and communication in order to “improve the lives and prospects of children, youth, and their families.”
six percent of the 89 participants were Non-persisters; of this group, seventy-one percent reported a negative aspect, but only 47% of the Persisters reported the same. Sixty-four percent of the Persisters believed they could finish the difficult puzzle with more time; only 29% of Non-persisters believed the same. Finally, only nineteen percent of the Persisters believed they could finish the difficult puzzle if they tried their hardest; by contrast 54% of the Non-persisters believed the same (cited in Burhans and Dweck, 1995, p. 1725).

The second study extended the first by asking children to explain their choice. All of the Non-persisters gave lack of challenge as their reason, making statements like, “It was the easiest.” However, sixty-nine percent of the Persisters gave a personal-goal reason such as “I want to see if I can do it” or “I want to see how [the puzzle] looks.” Follow children’s explanation, the participants chose a second puzzle choice. All of the Non-persisters repeated the same completed puzzle, while 90% of the Persisters chose a different, unsolved puzzle. Researchers observed children’s spontaneous comments during the trials; seventy-nine percent of the Persisters gave positive self-talk, compared to about half of the Non-persisters. As an extension of the second study, researchers added the task of building a block tower. Children predicted the tower height and then built until it fell. The Persisters and Non-persisters had similar initial predictions, but after the tower fell, the Non-persisters lowered their predictions for subsequent trials and then stopped building before the tower fell (cited in Burhans & Dweck, 1995, p. 1726).

The third study replicated the previous two puzzle studies, but it included first, third, and fifth grade students. The fifth grade Non-persisters showed the greatest negative aspect and reluctance to keep trying following task failure, but the first grade Non-persisters also demonstrated negative aspect and the helpless response to a lesser degree than the fifth-graders
(Burhans & Dweck, 1995, p. 1726). Although few in number, these three studies are significant because they suggest that students between the ages of four to seven demonstrate similar affective and behavioral responses to older children following task failure. Most significantly, these studies use the same terminology for behavioral responses as research on the Growth Mindset and academic achievement for students older than nine (Dweck & Leggett 1988; Mueller & Dweck, 1998; Grant & Dweck 2003; Blackwell et al., 2007). ThePersisters demonstrate mastery orientation, but the Non-persisters show the helpless response (Burhans & Dweck, 1995).

Affective and behavioral responses associated with learning are of particular interest to current early Elementary educators. The role of non-cognitive skills, such as: self-efficacy, self-concept, and goal type is a topic with limited, but growing number of studies (Schunk, 2003, Liew et al., 2008, Yung & Jonson-Reid, 2016). In fact, some organizations are going as far as to create assessment tools for other organizations to monitor changes in students’ non-cognitive skills over time. These assessment tools, founded in research, are arguably necessary because of a paradigm shift in education which asserts social and emotional skills are as important as academic ones for Elementary learners (Child Trends, 2014)

Social and emotional skills is a broad topic. In this case, Child Trends (2014) narrowed over fifteen skills to the Top Five non-cognitive skills for K-5 learners through an extensive literature review. Three skills they selected support Burhans and Dweck’s (1995) observations of the puzzle participants’ responses to task failure: self-control, persistence, and mastery orientation. The other two skills, academic self-efficacy and social competence, will be later discussed alongside research on self-efficacy, self-concept, goals type, and academic growth (Liew et al., 2008, Yung & Jonson-Reid, 2016, and Schunk, 2003).
Most importantly, it can be argued the Top Five skills are relevant because they are, as Dweck and Leggett state, malleable, teachable, and with long-term benefits (cited in Child Trends, 2014, p. 2) Furthermore, these skills are arguably Elementary appropriate, integrated, and mutually reinforcing. Although this research organization never uses the term mindsets, they do reference Blackwell’s et al. (2007) research on the relationship between mindsets and math achievement for Middle School students to create their assessment tools. The research and assessment of these five non-cognitive skills in lower elementary students is a critical bridge between established mindsets research and the current investigation; it supports the suitability of a measuring a Growth Mindset intervention in second grade students.

However, the existing research on non-cognitive skills on first through third grade students is limited to the role of self-efficacy and self-concept on reading and writing in the first language. This research finds that subject specific self-efficacy and academic self-concept do play a role in literacy achievement throughout the early grades. Self-efficacy refers to whether the individual views themselves as capable achieving a goal; subject specific refers to the academic domain (in this case, literacy) in which the goal is made (Schunk, 2003; Liew et. al 2008; Yung& Jonson-Reed, 2016). Self-efficacy, like the Growth Mindset, is viewed through the social-cognitive theory of psychology, which views people as agents. An agent can control oneself and the quality of their life; they can exercise influence over and change their belief systems and structures of life, as well as self-regulate their emotional responses (Bandura, 2001). However, the limitation of self-efficacy studies is that self-efficacy lacks the central motivational ideas of the Growth Mindset: that intelligence is malleable and learning begets additional learning (Dweck & Leggett, 1988).
The subsequent two studies and one literature review detail the role of self-efficacy and academic self-concept on reading achievement in first through third grade students. In the most recent study on self-efficacy and literacy growth, Yung and Jonson-Reed (2016) review that self-efficacy is formed by external experiences: performance, persuasion, and physiological reactions. Then, they hypothesize that because self-efficacy influences task choices, effort, persistence, and resilience, it will most likely influence academic achievement. The researchers question: 1) if a relationship exists between reading self-efficacy and reading skills (after controlling for socio-economic and affective factors) and 2) whether student behavior and/or student motivation mediates self-efficacy and reading achievement in first through third grade students. They use standardized testing and questionnaires to compare the strength of the relationship and the hypothesized mediating factors. The results show literacy improvement between pre and post-tests in all three grade levels, with first grade students showing the greatest average improvement. In addition, the results show a significant correlation between reading self-efficacy and reading growth, after controlling for motivation. They also find a strong correlation between motivation and self-efficacy. However, they do not find a correlation between academic self-concept and reading growth or classroom behaviors and reading growth. Therefore, they conclude that motivation, not behavior, mediates the relationship between self-efficacy and reading growth (Yung and Jonson-Reed, 2016).

In the second, earlier study, Liew et al. (2008) use a longitudinal model and hypothesize that first grade students with a greater attention span and higher persistence (greater “adaptive/effortful control” p. 516) will receive positive teacher feedback, which will increase their literacy self-efficacy in second grade, which will in turn increase their literacy in third grade. Liew et al. (2008) use individualized effortful control measures, such as the Walk-a-Line
test, that require students to demonstrate the executive and inhibitory control, attention to detail, adherence specific instructions required for success in the lower elementary classroom. In addition, researchers assess students’ subject specific self-efficacy in literacy and math through a student questionnaire. Actual literacy and math achievement is assessed once per year through the same standardized measure that Yung and Jonson-Reed (2016) use, the Woodcock-Johnson III Tests of Achievement. As hypothesized, adaptive/effortful control in first grade predicted of academic self-efficacy in second grade and reading achievement in third grade, even after researchers controlled for age, gender, IQ, ethnicity, and economic adversity. In addition, academic self-efficacy beliefs were associated with both high literacy and high math grades in first and second grade, but the increase in the standardized test score was only seen for literacy, not math, in third grade (Liew et al., 2008).

While Liew et al. (2008) and Yung and Jonson-Reed (2016) use primary research, Schunk (2003) has reviewed several previous studies, including many of his own, to argue that frequent self-evaluation and goal readjustment are the critical components in raising students’ academic self-efficacy. One study in each reading, spelling, and writing will be discussed: the first compared three conditions in low-achieving Elementary readers: weekly reading conference with goals and feedback, weekly reading conference with no goals, and no weekly conference (cited in Schunk, 2003, p. 165); the second compared the number of words Special Education (SPED) middle school students spelled following a goal condition or a control condition (p. 167); the third, and most relevant, compares the effect of a learning (process) goal, a process goal with feedback, a product goal, or a general instructional goal (control condition) on a twenty-day writing intervention for average to high achieving Elementary students (p. 168). The last study is of greatest interest because it uses the Mindset terms of learning and
performance goals in reference to literacy growth for Elementary students, integrating Mindset theory with the age group at hand. Following the literature review, Schunk (2003) has argued that student behaviors, such as goal-setting, change their self-efficacy beliefs. He has made this argument by indicating that Elementary students who had a reading conference with feedback outperformed students with no feedback and no conference (p. 165); that SPED middle school students who made spelling goals spelled more words correctly than students who did not make goals (p. 167), and average to high-achieving Elementary writers make the most growth with learning (process) goals and feedback (p. 168). However, in light of these findings, Schunk (2003) concluded lower elementary teachers should tell students “That’s right. You are really good at [reading]” (Schunk, 2003 p. 161). He argued teachers should say this because successes raises self-efficacy and failures lower it; therefore if outcome expectations are low, motivation decreases. While this line of reasoning aligns with Dweck and Leggett’s (1988) research on theories of intelligence in students older than nine, it does not account for repeated failures. In fact, Dweck (2015) argues that hinging self-efficacy on success versus failure outcomes most likely will result in increased feelings of incompetence following failure. Schunk (2003) did conclude his literature review by qualifying his position, stating positive persuasion increases motivation, but only in the short-term.

The aforementioned studies demonstrate self-efficacy alone offers limited solutions for lower elementary students who already experience repeated academic setbacks, such as the current study’s participants: beginning Language Learners in a content and language integrated approach. This is despite researcher agreement that students who experience repeated failure are the most vulnerable to subsequent failures (Schunk, 2003; Liew et al., 2008; Yung & Jonson-Reed, 2016). Yung and Jonson-Reed have only a few suggestions on how to raise achievement
through self-efficacy. Their suggestions are vague: give positive feedback, change the classroom environment, and raise self-efficacy. However, Liew et al. (2008) suggests it is most necessary to bridge research academic development with current research in child psychology for this age group.

Heyman et al. (1992) and Burhans and Dweck (1995) work on five to seven year-old children’s behavioral responses to task failure bridges this gap. Why do young learners behave in the same ways as children older than nine in response to failure? The researchers suggest that an extension of mindset theory, contingent self-worth, may be more psychologically significant for younger learners than mindsets are for older learners. These researchers use both experimentally-manipulated quantitative studies and interviews with children to argue the child’s perception of the condition of his/her self-worth is enough to provoke the mastery-oriented or helpless response (Heyman et al., 1992; Burhans & Dweck, 1995).

In the first study, Heyman et al. (1992), researchers hypothesize if the child believes his/her behavior is indicative of his/her worth, and repeated trials lead to increasing failures, then the child will demonstrate the helpless response to avoid the shame of subsequent failures. They explain that while older children adults often link perceived fixed incompetence with shame, younger children with contingent self-worth most likely link perceived negative outcomes with shame. Therefore, these children demonstrate a host of maladaptive behaviors to avoid or redirect negative task evaluations.

In this first study, researchers find 35% of five and six-year olds are more likely to give themselves a low task-completion rating following adult criticism than following no criticism. First, students were asked general beliefs about goodness; then participants judged a hypothetical new student who received many frowns and displayed many socially unacceptable
behaviors. Next, students worked one-on-one with a researcher to roleplay a hypothetical situation where the child made a small mistake when drawing. After the mistake, the researcher said, “That’s not how to do __. I am disappointed in you.” All children heard three stories with a similar plot; the variability was the order in which the stories were heard to demonstrate not all children perceive adult criticism as reflective of conditional self-worth. The control condition heard one story with no judgment first, but the treatment condition heard two stories with judgment first before hearing the neutral story. All results supported researchers’ predictions: in the control group, 94.4% of participants rated their product as high before criticism (high-product raters). However, after receiving criticism, only 40% of all participants rated their product as high (low-product raters). The high-product raters were more likely to want to persist, and reported a happier affect. In a post-evaluation interview, the low-product raters were four times more likely to self-evaluate as not smart and not nice, and three times as likely to self-evaluate as no-good at the task. Furthermore, low-product raters tended to judge a classmate who received hypothetical frown-faces on a task as a “bad child” and believed this classmate’s socially unacceptable behaviors would never change. Finally, the low-product raters were most likely to reaffirm the adult criticism, some going as far as to say a punishment was deserved.

Later, the researchers asked all participants to offer a solution to the failure drawing. Fifty-eight percent of the high-product raters suggested a constructive solution, such as re-doing the drawing or apologizing while 63% of the low-product raters suggested a unconstructive or irrelevant solution, such as crying, throwing away the paper, hiding, or constructing a fantasy. Most importantly, the high-product raters generally viewed their intentions (trying to make a drawing) as an indication of goodness (sic) while the low-product raters viewed their errors as
an indication of badness (sic). This study suggests there is a psychological variability in young children’s attributions of negative outcomes, which affects the adaptability of the children’s behavioral responses and the likelihood the child will desire to try again (Heyman et al., 1992; Burhans and Dweck; 1995).

While there are very few studies in child psychology that address the relationship between self-worth and children’s behavior, they provide educators with an age-appropriate, psychologically-rooted framework for motivating the fragile learners who repeatedly fail. Teachers want students to take risks; however, the helpless response preschoolers selected the same puzzle again and again because they depend on external events to prove they are worthwhile. When the Nonpersisters succeed, they feel the same relief that a moderate to high-achieving Fixed Mindset seventh-grader feels following an academic success. When they fail, they are vulnerable to the same shame, which leads to devastating psychological, emotional, and academic or cognitive performance results and the same fear of trying again (Grant & Dweck, 2003; Blackwell et al., 2007; Burhans & Dweck, 1995).

It is important to restate that while self-efficacy studies communicate ideas about the role of motivation and behavior on achievement, none of them mention learning capacity is controllable. Although believing in oneself (self-efficacy) is found to have important affective role on first through third grade learners (Liew et al., 2008; Yung & Jonson-Reed, 2016) the danger of teaching only self-efficacy and self-concept is the implied message of inability for students who repeatedly fail (Dweck, 2015). Moreover, repeated failures are argued to elicit the helpless response for those young children who view the self as an object of contingent/conditional worth (Heyman et al., 1992; Burhans & Dweck; 1995).
Finally, it can be reasonably argued that only raising global self-worth, subject-specific self-efficacy, or academic self-concept will have little effect on children’s persistence or resignation of effort. As Schunk (2003) explains, convincing students they are good, smart, and capable only has short-term benefits; the true test of resiliency is students’ response to perceived failure (Dweck, 2015). As with mindsets research, students’ cognitive ability has little bearing on the student’s response to perceived academic failure; the degree of the child’s self-worth has little bearing on the student’s self-perception of badness. Rather, it is the belief that the self is an entity to be evaluated that brings the helpless response to failure; it is this same belief that leads young children to view themselves and others with static personality traits. Therefore, while it may be inconclusive whether a second grader can fully conceptualize and self-evaluate intellect and ability, research indicates that a mindset-focused intervention is more, not less, valuable at this age. Interventions on no skills, such as effort, perseverance, and self-efficacy are not enough. Second graders need an alternate non-cognitive skill set: unconditional self-worth, learning goals, the value of effort and strategy, and mastery orientation response to setbacks or challenge. While this section emphasizes the need for a Growth Mindset intervention for second graders, it lacks reference to second language learning. The next section will outline conceptually similar theories specifically used in language learning contexts, such as Weiner’s (1979) attribution theory.

**Attribution Theory and Language Learning Outcomes for Adolescents and Adults**

There are no studies documenting the relationship between mindset theory and language proficiency for lower elementary students, but a few preliminary studies exist on the topic using University students (Mori, 1999; Mercer & Ryan, 2010). However, the mastery orientation and helpless response are mentioned in a limited number of studies on motivational theories within
EFL and SLA for adolescents (ages 10-16). These studies are founded in the belief that motivation within language learning is more, not less, complicated than other academic domains because it requires integration of one’s cognition with their social and cultural identities (Williams et al., 2002; Dörnyei, 2003). These studies are founded in several academic disciplines and theoretical frameworks, each with their own focus (Dörnyei, 2003). Within the studies, there are a few that analyze the relationship between the reason the learner attributes to the language learning outcome and language learning success versus failure (Williams & Burden, 1999; Williams et al., 2002; Gobel & Mori, 2007; Williams et al., 2004; Hsieh & Kang, 2010). Some of studies use statistical analysis to argue the reason the learner attributes to the outcome will be predictive of future outcomes (Gobel & Mori, 2007; Hsieh & Kang, 2010).

Within motivational research on EFL/SLA, researchers emphasize teacher feedback and teacher belief in students’ ability (Williams & Burden, 1999). They suggest a variety of interventions; the majority align with Growth Mindset research: teach students the language learning outcome can be controlled through effort, persistence, and adjustment of strategy (Williams & Burden, 1999; Williams et al., 2002; Dörnyei, 2003; Williams et al., 2004; Gobel & Mori, 2007; Hsieh & Kang, 2010; Dweck, 2015).

Before analyzing motivational theories in language learning, it is necessary to point out language learning is fundamentally different than other academic domains. Although language learning is often evaluated in school, Dörnyei (2003) explains that language growth is dynamic and temporally variable. This means there are relative periods of language acquisition and loss, coupled with a wide variance in student motivation over the course of a grading period. Dörnyei (2003) argues the dynamic character and temporal variation add extraneous variables to the relationship between student motivation and language proficiency. In fact, he suggests
researchers use a process-oriented approach to measure the aforementioned relationship. The process-oriented approach aligns with mindset theory and would shift the focus to motivation and language learning behaviors, instead of proficiency (Dörnyei, 2003).

In addition to viewing language learning as process, not product, Williams et al. (2002) mention language learning is foundationally practical; it is a communication coding system. However, it is also a deep cultural system which transmits speakers’ implicit values through its lexicon and grammar. For example, Dweck and Leggett (1988) theorize language and culture are so interrelated that the English language gives insight to its speakers’ values through entifying (sic) properties of people and things. To expand on their theory, it is believed English uses adjectives to entify (sic), or describe a person’s actions or way of behaving as a separate reality from the person; by contrast, the Chinese language, a more collaborative culture, does not have this grammatical feature (Dweck & Leggett, 1988). Mercer (2010) also indicates that language and culture are oftentimes indistinguishable. In her brief literature review of the influence of the Growth Mindset on college-age and adult language learning, she concludes that language aptitude is no longer considered a static entity as modern researchers gain knowledge of the neuroscience of learning. Rather, aptitude is more accurately defined as learners’ strengths and weaknesses, combined with a range of cognitive and affective factors which dynamically interact with motivational and cultural factors. The abundance of interrelated factors on language learning is argued to cause a plethora of complicated motivational theories on the topic (Dörnyei, 2003). However, the subsequent studies explain motivation in terms of attribution theory (Weiner, 1979) and language learning outcomes. These studies reference academic disciplines and theoretical frameworks with a conceptual connection to Growth Mindset research.
Research on the relationship between attribution theory and language learning outcome expands on two relevant concepts: 1) how learners perceive their failures and 2) how this perception affects learners’ behavioral response to failure. These studies propose Weiner’s (1979) attribution theory can be extended to the language learning domain. Attribution theory is defined as the cause learners assign to their successes and failures. His earliest work attributes four main causes: ability, effort, task difficulty, and luck (cited in Williams et al., 2004, p. 19); however, later work on attribution theory extends includes additional affective and social causes, such as interest and family or teacher influence (p. 20). This later work approximates mindsets theory, because it interrelates three factors: 1) individual influence over of the outcome (locus of control), 2) stability of outcome over time 3) general controllability of outcome (cited in Gobel & Mori, 2007, p. 153). Therefore, the trend in general attribution theory research indicates that individuals tend to have a more positive aspect and persist following hardship when they attribute the outcome to have an internal locus of control, be unstable, and be controllable. These three attributes which share these factors are: effort, quality of strategy, and personal interest in the task. However, individuals tend to have the most negative, maladaptive response when they attribute the outcome to an internal, stable, and uncontrollable factor. The only attribute which shares these three qualities is ability (Williams et al. 2004; Gobel & Mori, 2007; Hsieh & Kang, 2010).

Although research shows students (ages 10-16) give different attributions to success and failure, their attributions for failure and the behavioral responses associated with these attributions are of greatest interest. In the first study, Williams et al. (2002), use questionnaires and teacher-rated proficiency in order to observe significant differences in motivation, affect, and the role of effort between the highest achievers (A) and the lowest achievers (C) in both
Year 7 and Year 9 British adolescents. As hypothesized, the A group rated language learning as enjoyable, effort as a learning strategy, and stated they knew the reasons behind their successes. However, the C group rated themselves as apathetic about language learning and did not find effort to be beneficial. Therefore, Williams et al. (2002) labeled the A group as having the highest degree of “agency” (p. 514), defined as the interplay of effort, perceived result of effort, internal locus of control, and awareness of strategies on language learning motivation.

In the second study, Williams et al. (2004) elaborate previous research to include students’ personal evaluation of their language learning outcomes. In this way, the student’s perception of the outcome as a success or failure is valued over a teacher evaluation or a test score. The researchers compare the percentages of success attributions versus failure ones. They observe that although effort (adequate or lack of) accounts for about one-third of both success and failure attributions, ability is reported in about 10% more failure attributions than success attributions (22% to 13%). It is notable that 427 attributions were success ones, versus only 71 failure ones. Of the 71 failure attributions, 23 were attributed to lack of ability. In terms of aspect, the percentage of lack of interest doubles for the failure attributions by comparison to the success attributions. This means that only 45 of the 427 success outcomes cited lack of interest (11%), where about 15 of the 71 failure outcomes cited lack of interest (20%).

In the third study, Hsieh and Kang (2010) also find a difference in success versus failure attributions by using statistics to quantify the relationship between students’ attribution of language learning outcome, language learning self-efficacy, and actual proficiency for 292 ninth-grade EFL students in South Korea. In this study, students’ attribution of outcome and self-efficacy were assessed by student questionnaires and proficiency was evaluated by the students’ self-reported scores on a language test. As they predicted, the researchers found
achievement, self-efficacy and internal, personal control factors to all be positively correlated. In addition, they found achievement and external attributions negatively correlated, which predicts that those who believe they cannot personally control their performance subsequently perform worse. In addition, they conclude that successful learners tend to endorse controllable factors, while unsuccessful learners tend to attribute the outcome to uncontrollable factors, such as ability, teacher bias, luck, or task difficulty. It is important to note the researchers had to take out stability over time as a factor in their study due to low internal consistency for the measure. However, this study indicates that self-efficacy and successful outcomes together play a predictive role in students’ behavior response. Students must believe in and have experienced success in order expect success as a result of effort and persistence following a setback; sheer effort without outcome is not sufficient (Hsieh & Kang, 2010).

Finally, Gobel and Mori (2007) show that students’ self-perception of their language learning ability is the strongest predictor of subsequent grades for first-year EFL Japanese college students. Although it is assumed students perceive ability as a stable factor, it is reported students perceive ability as the most predictive of their future successes, and their self-concept increases or decreases accordingly (Gobel & Mori, 2007). Viewed through the Growth Mindset lens, neither self-efficacy nor outcome alone is enough to provoke the mastery orientation. If a language learner has high-self efficacy, but experiences failure, the student will most likely lower his/her expectations and eventually show the helpless response (Dweck & Leggett, 1988). If a language learner has a low-self efficacy, but experiences success, the student will most likely increase his/her expectations, but only in the short-term (Dweck & Leggett, 1988; Schunk, 2003). Therefore, it is of particular concern that learners’ attributions for failure lean less towards effort and more towards ability as learners get older (Williams and Burden, 1999;
Williams et al. 2002). The following studies will detail the relationship between perceived language learning outcomes and students’ attributions.

In the first, small, qualitative study using one-on-one interviews in Southern England, Williams and Burden (1999) found that over 50% of younger students (ages 11 and 12) attributed success in French to effort, such as listening, where only 25-50% of older students (ages 14 and 15) attributed their successes to the same. Likewise, over 50% of the younger students cited effort as a strategy for improvement, where effort as a strategy had been reduced to only 25-50% of older students. More than 50% of the older students viewed grades as indicative of language progression, where over 50% of the younger students viewed verbal teacher feedback as indicative of language growth.

In the second study, Williams et al. (2002) report that foreign language motivation declines from Year 7 to Year 9 of secondary school, especially for the lowest achievers. The research partly attribute the decline in motivation to the “Matthew Effect” (p. 523), a term originally coined by Walberg and Tsai (1983) to describe the reciprocal relationship between achievement in literacy, positive teacher feedback, and access to additional texts. In this way, the researchers hypothesize that language learning motivation decreases over time for the lowest achievers because they receive negative feedback, fail to understand subsequent concepts, and lower their expectations (Williams et al., 2002).

In the third study, Williams et al. (2004) expand their previous research to compare the percentages of younger (age 11) and older (age 16) attributions for both success and failure based on 285 British students’ results to an open-ended questionnaire. Younger students are more 30% more likely to cite effort than older students (46% to 13%), and older students are almost three times more likely to cite strategy than younger students (21% to 8%).
Williams et al. (2004) did not report a change in attribution to ability over time, they did mention that students’ interest in language learning considerably decreased over time; in fact, low affect was one of the top attribution for failure in the older students.

The role of attribution theory on language learning is arguably more complex than mindsets and academic ability due to the diverse factors that affect language learning. Although ability is described as a fixed, stable quality, it is more likely to be attributed to failure than success in both Eastern and Western studies (Williams et al., 2002; Williams et al. 2004; Gobel & Mori, 2007; Hsieh & Kang, 2010). In addition, younger students are more likely to believe they can control their language learning outcomes than older students (Williams & Burden, 1999; Williams et al., 2002; Williams et al. 2004). However, a few studies suggest learner attributions may be influenced by an internal cultural script, further speaking to the integration between language and culture (Gobel & Mori, 2007; Mercer 2010; Hsieh & Kang, 2010). Student perception of learning outcomes, student age, and cultural background work together to confuse the relationship between learner attributions actual learning outcome. In addition, it is important to mention the eleven year-old learners gave very vague descriptions of language learning success, such as “doing well” (Williams & Burden, p. 199) while university-age learners are found to have a clear conceptual distinction between epistemological reasons for general learning versus language learning. University learners are even able to report different mindsets for task-specific language learning aspects (Mori, 1999). The interplay of the aforementioned factors support why Dörnyei (2003) states motivational interventions in the language learning context have been limited.

Despite the complications, some language learning researchers describe a cyclical, self-deprecating response to ability attributions for failures without using Dweck and Leggett’s
(1988) behavioral terms. This description is analogous to Blackwell’s et al. (2007) description of seventh-grade, Fixed Mindset, mathematics students. Here, the language learner first attributes the failure to low ability, then feels embarrassment, then lowers his/her self-efficacy, then performs poorer, and finally withdraws from the language learning course (Gobel & Mori, 2007).

The study I plan to conduct will teach “adaptive attributions” (Hsieh & Kang, 2010, p. 622) by presenting ability as an internal, unstable, and controllable factor alongside effort, quality of strategy, and interest in a six-week intervention. The goal is to elicit the positive aspect and persistence following inevitable mistakes by communicating to students that all people who can speak a first language are capable of learning an additional one (Dörnyei, 2003). Mistakes are expected and have no bearing on the learners’ cognitive ability or self-worth. Integrating the relationship between mindsets theory, condition of self-worth and attribution theory on language learning outcome for content and language-integrated second grade learners is foundational. This is because Dörnyei (2003) argues the majority of individuals who begin an additional language never achieve even basic communicative proficiency, but behavioral reactions to failure are observed as young as age two (Burhans & Dweck, 1995). Although the three preceding sections argue a Growth Mindset intervention in a lower elementary CLIL setting is invaluable, not all educational philosophers agree. In fact, as will be shown in the next section, Kohn (2015) argued the Growth Mindset harms students by diverting their criticisms towards the self when the blame for academic setbacks more accurately belongs on irrelevance of the task or structural injustices.
Critiques of the Growth Mindset and Dweck’s (2015; 2016) Response

Over-emphasizing effort and understating context lies at the center of Kohn’s (2015) passionate criticism of the Growth Mindset. Written with a sarcastic tone throughout, he summarized the Growth Mindset as: 1) the belief kids “fare better” when they regard intelligence as an attribute that can be increased through effort and 2) the belief kids “do better” in the future if they credit their outcomes to effort. Finding the popularity of these ideas extremely disturbing, he likened the Growth Mindset to a “cultural meme.” Focus on effort, he argued, contributes to blind obedience to the status quo through drawing students’ attention away from evaluating the quality of the task, the value of learning, and the power of structural inequities in schools and society at large. More specifically, he pointed out that standardized testing and fact cramming are neither meaningful nor authentic, and students should respond by vehemently questioning the purpose of the task opposed to adjusting their efforts. In addition, he denounced praise of all forms, indicating that even effort-based praise is verbal manipulation, and he believes it reduces engagement by increasing extrinsic motivation. Most importantly, he criticized continual hard work, because disadvantaged individuals may come to view their conditions as fixed and fault themselves for systemic injustices. According to the Growth Mindset model, he reasoned, women and minorities are underrepresented in math and science fields as a result of their own faulty mindset. Therefore, he concluded the mindset movement, although founded in empirical research, was ambushed and distorted by conservative ideology. He called for educators to ignore mindsets altogether, and instead focus on dismantling toxic structures that serve to only benefit the elite (Kohn, 2015).

Less than a month later, Dweck (2015) responded to Kohn’s (2015) critique. She was invited to speak as one of Education Week’s Leaders to Learn From six months later. At the
heart of her response was the idea that adopting a Growth Mindset is arguably analogous to Dornyei’s (2003) description of language learning: a dynamic, temporally variable, lifelong process that is embedded within emotional introspection and interaction with others. Although not done overtly, Dweck (2015; 2016) addresses each of Kohn’s (2015) criticisms, carefully pointing out that yes, increased effort with continued failure does result in increased feelings of incompetence, rumination, and anxiety, but the central idea of the Growth Mindset is not hard work. The central idea is increased learning made possible through engaging in unknown material, which is only possible through embracing of challenge. Learning can be increased through change of strategy, which is accomplished by teacher feedback. She advises educators to sit with struggling students, asking them which strategies they have already tried, and together plan next steps. In addition, she encourages teachers to treat failures as exciting learning opportunities through tying each failure to the larger learning process. Finally, she agrees with Kohn (2015) that no student finds standardized testing intrinsically motivating, but counters that teachers should guide students in making meaningful goals rooted in their passions and responsibilities to their families and communities. She encourages teachers to point out how even boring classwork helps students move towards their personal goals (Dweck, 2016).

In addition, like Kohn (2015), Dweck (2016) finds excessive praise of effort problematic. This is because praise responds to behaviors, but the behaviors may not correspond with learning. What if a child tries really hard, but does not learn, or the reverse, completes a lot of work, but the work was too easy? (Dweck, 2016). She repeats how she began her research to counter what she considers the failed self-esteem movement of the 1980’s. Here, students were lead to feel good about themselves with little regard to their performance outcome. She is dedicated to using praise only if it necessary in learning process, and limiting the praise to
specific student actions, like excellent strategy, even if the answer is incorrect. She finds teacher praise of students’ work to be a small outcome in comparison to the self-reflection of next learning steps the student should complete following a project (Dweck, 2015).

Finally, Dweck’s (2016) most current work addresses the effect of the Growth Mindset on groups of individuals who are often stereotyped or marginalized. She references one of her studies where women and underrepresented minorities in college freshman classes flourish when they perceive the professor has a Growth Mindset and is willing to invest in their progress. In addition, she mentions another study that indicates the Growth Mindset has a disproportionately positive effect on minority groups, perhaps because the student recognizes the teacher communicating the Growth Mindset believes in the student’s potential, which reduces the power of a “fixed” perception of stereotypes, and focuses the student and teacher on the common goal of growing the individual’s skill set. Finally, and most relevant, she denounces viewing ELL students through a deficit lens, instead encouraging language teachers to inform emerging bilinguals of the neural benefits of learning languages, and guide students to list how multiculturalism and multilingualism increases overall competence (Dweck, 2016).

As Dweck (2015) herself mentions, the Growth Mindset is a developing topic, negotiated by researchers, teachers, parents, and students through varied circumstances and conversation with others. Dweck (2015) remains committed to expanding her own Growth Mindset as her knowledge develops. Currently, her research focuses on how teachers and parents can effectively deliver the Growth Mindset message to young people through aligning their words with their actions. Therefore, my research serves to add to the conversation through focusing on lower elementary bilingual participants in a CLIL setting, a group Dweck (2016)
would most likely argue to benefit from a mindsets intervention. The next section will describe
the participants, measurement tools, and methods of the current investigation in greater detail.
Chapter 3: Methods

Overview

As described extensively in the Introduction, the research topic arose in response to my anecdotal observation of the second grade students at the research site quickly abandoning their efforts to speak and write English when the task became difficult or when the teacher was not present. Instead of using their prior knowledge of English to problem-solve, they quickly asked for step-by-step teacher guidance or elected to speak and write Spanish during challenging problems in the core subjects in English. Students responded in this way despite ample English-language supports, such as sentence stems, vocabulary visuals, verbal examples, and project examples displayed in the classroom. It is predicted the research topic may introduce a valuable framework for students to respond to the additional challenges and setbacks present in the CLIL context that most likely are not present in an L1 classroom. The objective of the study is demonstrated in the research questions, which are as follows:

1. How do second-grade Colombian English language learners report changes to their Growth Mindset qualities following a six-week Growth Mindset intervention?
2. How do second-grade Colombian English language learners perceive their language learning ability following a self-evaluation of Growth Mindset qualities?

Data will be obtained by administering the Perceived Controllability and Stability of Outcome questionnaire, once at study-initial and again at study-final. In addition, data will be gathered through interviewing three focal participants in the final week of the intervention, one of each an initial high, mid, and low Growth Mindset as determined by the scoring of the study-initial questionnaire. In addition, student comprehension of the curricular objectives will be evaluated through one-question exit slips at the end of each lesson.
The results will be analyzed by observing the changes, if any, in students’ mindsets between the study-initial to the study-final questionnaire scores. In addition, the results will be reflected by the three focal participants’ unrehearsed responses to the open-ended interview questions. Student comprehension of each lesson’s main objective must be at 90% of the class, or the lesson will be reviewed and reassessed. The subsequent section will explain how the research questions will be answered and communicated to stakeholders.

**Research Aims**

The purpose of the research is to listen to, analyze, and reflect upon students’ reported experiences with a six-week Growth Mindset curriculum adapted for second-grade, ELL students. As I, the teacher-researcher, record students’ reflections with the curriculum, I will begin a process of introspection which will hopefully change my day-to-day teaching methods to better intrinsically motivate my second graders to engage in speaking and writing English. My reflections and recommendations for future study and implementation will be further addressed in Chapter 5.

A secondary purpose of the research is to communicate the results through professional development to the faculty and parent community of the research site. The first step towards accomplishing this objective will be co-planning a forty-five minute “Value of the Month” presentation in January with the students on the Growth Mindset for the entire Elementary and the parents of second grade. The second step will be leading a professional development about the research, implementation, and analysis of the current research for the Elementary faculty on March 22, 2017. Also, the director of the school will purchase Growth Mindset curricular materials for the 2017-2018 school year, and he expresses an interest in this investigation’s results. Communicating the results of the current investigation may continue into the 2017-2018
school year, both at the research site and at international school conferences. The next two
sections will describe the participants and location of the classroom action research that I will
conduct.

Participants

The participants of this classroom action research will be 17 second grade students, ages
7 and 8, (6 female and 11 male) in the same homeroom English class at an international school
in the department of Valle de Madero, Colombia. (The study did begin with 21 second grade
students (10 female and 11 male), but four female students will be removed from the study
because they have missed an extensive part of the study due to absences). The participants were
in their second year of CLIL English instruction at the time of the study. Although the school
teaches all core subjects in English through a CLIL approach, students only spend two hours
and forty-five minutes of their seven hour and forty minute school day in English class. They
spend the remaining four hours and fifty-five minutes in PE, Technology, Art, Music, Spanish,
Colombian Social Studies, Recess, Lunch, and transition time.

The participant sample is homogenous in ethnicity, socioeconomic (SES) status, and
nationality. All students are Colombian citizens and speak Spanish as a first language.
However, they have many opportunities to speak English outside of class before and during the
study due to their high SES status and ease of international travel. To put students’ SES status in
context, lower elementary tuition is approximately $550 USD per month, but the monthly
minimum wage in Colombia is approximately $230 USD (Arias Jimenez & Ortiz Castaño,
2015). Furthermore, the majority of students at this international school report out-of-school
immersion experiences, such as English immersion summer camps and extended family trips to
English-speaking countries. Anecdotally speaking, approximately 50% of the participants’
parents speak English well enough to communicate about daily matters. In addition, it is
anecdotally noted that the second grade students at this school express a high interest in US
mainstream media, music, and fashions, enjoy travel to the United States, and find it “popular”
to speak English.

**Location**

The research site is a non-profit, co-ed, preschool through twelfth grade, bilingual
international school. There are approximately 80 faculty members, twenty of whom are from
the United States and Canada. There are about 650 total students, making the teacher to student
ratio less than 1 to 20 overall. Since lower elementary has a full-time assistant, the teacher-to-
student ratio is 1 to 11 in second grade. The school is accredited by the Southern Association of
Colleges and Schools (SASC) and the Colombian Ministry of Education. Therefore, students
graduate from the research site with both a United States high school diploma and the
Colombian high school equivalent.

The Elementary is small; it is composed of only two classes of each first through fifth
grade. There are 20-25 students per class. Elementary is further divided into lower elementary
(Grades 1 and 2) and upper elementary (Grades 3, 4 and 5). Collaboration and interdisciplinary
integration is fostered through team teaching with the Literacy, Science, and Technology
teachers. For example, in my class, all students have the opportunity to work in a group of five
or fewer students on English literacy skills with a teacher, literacy resource teacher, or assistant
for twenty minutes per day. The following section will outline the procedures of the study.
Procedures

This section will explain the timeline, sequence, and rationale for the procedures of the present investigation. The classroom action research will place for six consecutive weeks, beginning on September 20, 2016 and ending on October 28, 2016. The study will be modeled after Blackwell’s et al. (2007) seminal study on the relationship between the Growth Mindset and math achievement for seventh grade students. Like as in Blackwell’s et al. (2007) study, students’ mindsets will be first recorded at study-initial through a questionnaire; next, a short intervention will be taught; and after that, students’ mindsets will be recorded at study-final through the same questionnaire. Last, students’ responses from the study-initial and study-final questionnaires will be compared and trends will be observed in order to answer the research question. However, some adaptations will be made to Blackwell’s et al. (2007) study in order to make the research age-appropriate and relevant for young language learners.

First, the questionnaire will be written for the current study. Existing questionnaires on non-cognitive skills for lower elementary that approximate my research aim will be modified to create the Perceived Controllability and Stability of Outcome questionnaire as a measure of second graders’ mindsets (Rosenberg, 1965; Lufi & Cohen, 1987; Mori, 1999; Child Trends, 2014). Second, to increase the validity of the study and the teacher-researcher’s objectivity, the questionnaire will be administered in Spanish by the Elementary counselor. The use of Spanish most likely will increase the likelihood that questionnaire evaluates its intended objective, not students’ English comprehension. Using a third-party to administer the questionnaire prevents me, the teacher-researcher, from making unconscious judgements about the individual responses and focus on the first research question, which is how students report changes to their mindsets. In addition, it has been observed that young children sometimes respond to
questionnaires by marking the response they believe their teacher or parent desires to hear (Schunk, 2003). Using a third-party administrator is a direct response to this concern. Finally, the Elementary counselor was selected intentionally because she administers school-wide surveys and also serves as the Elementary disciplinarian. Her presence most likely encouraged students to take the questionnaire seriously and follow the instructions to the letter. A copy of the questionnaire and with its scoring guide can be viewed in Appendix A.

In order to fill the research gap indicated at the end of Chapter 1, a Growth Mindset curriculum specific to second grade English language learners in a CLIL setting will be written. As previously stated, the curriculum is composed of seven lessons, and each lesson is forty-five minutes in duration. There will be one lesson per week for a six week period, with the last week having two lessons. The lessons draw from a variety of age-appropriate sources, including the online PERTS Laboratory where Dweck is affiliated (Paunesku & Romero, 2017).

The curriculum uses Best Practice methodology for Elementary ELL students. Each lesson will begin by chorally reading the posted objective and discussing prior knowledge with a partner. Then, the teacher will introduce three to five picture vocabulary cards which are displayed on a bulletin board for the duration of the intervention. Next, there will be direct instruction (cartoon, picture book, or slide show), followed by a short whole-class discussion with sentence stems posted on an anchor chart. Think-pair-share will be used during the class discussion to increase participation. After the discussion, students will always do a hands-on activity (art, writing, or game). To assess students’ comprehension, the lessons will end with a brief review of the objective and written exit slip.

In addition to using age-appropriate materials and methodology, the current study’s curriculum views language learning as an unstable, controllable attribute. More specifically, the
action research I will conduct extends on Blackwell’s et al. (2007) curriculum in order to view existing studies of language learning and attribution theory (Williams & Burden, 1999; Williams et al., 2002; Gobel & Mori, 2007; Williams et al., 2004; Hsieh & Kang, 2010) through the Growth Mindset lens (Dweck, 2016). As stated in Chapter 2, the attributes perceived by the language learner to be unstable and controllable tend to relate with a more positive aspect and increased persistence following setback. The unstable and controllable attributes of the existing attribution theory research are the same as Dweck and Leggett’s (1988) Growth Mindset qualities: effort, quality of strategy, and interest in the task (cited in Gobel & Mori, 2007, p. 153). For this reason, the curriculum of the current study will be designed to inform lower Elementary language learners that language learning ability is most likely malleable and increasable. This was accomplished by placing existing studies on language learning and attribution theory alongside the central message of the Growth Mindset.

Viewing language learning through the Growth Mindset lens will be accomplished through including a lesson on how language learning changes the brain activity of the learner. This lesson will demonstrate how research supports that learning an additional language changes neural activity in regions of the brain specific to the bilingual individual (Dweck, 2016). The central message of the Growth Mindset will be communicated to the participants in the curriculum’s first objective, taken directly from Blackwell’s et al. (2007) first lesson: The brain makes more neural connections, or the brain grows, by engaging in learning. Language learning and neural activity of the brain will be taught in the fifth lesson; then, the main idea of the Growth Mindset will be repeated in the sixth and seventh lessons, along with introducing self-worth. The complete lesson plans, with rationales, can be viewed in Appendix B.
After implementing the curriculum, students’ anonymous responses of the study-initial questionnaire will be reviewed. Three students, one of each a high, mid, and low-initial Growth Mindset, will be selected to participate in a twenty-minute, one-on-one interview in the final week of the study. The rationale for utilizing two data collection methods is to increase the study’s validity through data triangulation. In addition, the data collection method of participant interviews appropriately answers the first research question, which is: How do students report changes to their effort, persistence, and mastery orientation following a Growth Mindset curriculum. Report changes refers to how students perceive the curriculum to change their framework for responding to the challenges associated with language learning. Participant interviews also answer the second research question, which is: How do students self-evaluation of their Growth Mindset qualities relate to students’ beliefs about language learning.

The interview will be conducted in the familiarity of the classroom while other students were in the specialist classes. This location will give the language learner access to all the bulletin boards and anchor charts with the Growth Mindset vocabulary and sentence stems, but I, the interviewer, will not overtly reference the charts. The interview will be video-recorded by the teaching assistant. To create the interview question bank for focal participants, I will repeat and adapt the end-of-lesson assessment questions from the six-week curriculum. The complete list of interview questions and interview procedures can be viewed in Appendix C.

Last, the same questionnaire will be administered after the final lesson in the last week of the study by the Elementary counselor. Again, the questionnaire will take about thirty minutes for students to complete, and it will be administered in the familiarity of the classroom where students were be able to view the vocabulary picture cards and anchor charts. Apart from the focal participants, I will not know which questionnaire corresponds with which student for
the duration of the study. The following section will outline how the data will be analyzed in Chapter 4.

**Data Analysis**

**questionnaire.** The Perceived Controllability and Stability of Outcome questionnaire will be analyzed after dividing the questions in three subtopics that respond to the first two parts of the research gap: Effort, Persistence, and Quality of Strategy (part 1 of the research gap), Conditional Self Worth (part 2), and Stability of Traits (part 2). Because the questionnaire was presented to students in Likert format, a value of “1” was assigned to the response “Not at all like me,” and a value of 5 was assigned to the response “Exactly like me.” Reverse scoring will be applied to questions #6, 7, 9, 10, 11, 13, 14, 15, 16, 17, 19, 20. All results will be reported in number of points, with a higher number or greater positive change representing a tendency towards Growth Mindset beliefs, as defined and explained in Chapters 1 and 2.

The questions which correspond to each subtopic will be averaged for each of the 17 students on both the before and after questionnaire. Then, the difference between the average on the before questionnaire for the subtopic and the after questionnaire was calculated. The difference will be expressed as a change of number of points. This information will be displayed in a separate table for each of the subtopics in Chapter 4.

In addition, students overall score on both questionnaires and the difference between the questionnaires will be calculated. As there were twenty questions and each question could have a maximum of five points, the highest possible score was 100 points. Students’ overall score and overall difference will also be displayed in a table in Chapter 4.
Finally, the results of each question will be analyzed through looking for individual questions with high or low scores or great or little change. Questions with an average score of over 4.5 or under 2.5 on the before or after questionnaire will be listed. In addition, questions with the greatest change and the least change will also be listed alongside the value of the change in Chapter 4. Predictions and questions as to why these individual questions produced a high or low score or great or little change by comparison to the other questions will be discussed in Chapter 5.

**interviews.** Students’ unrehearsed responses demonstrated how students believe they have integrated the curricular objectives into their work habits and behaviors. The interviews will be reviewed for relevance to each of the research questions. Only the responses that correspond to each research question were transcribed, and these responses will be embedded within the text of Chapter 4.

**researcher anecdotal observation.** The process of the interview will provide insight to how the young language learners experienced the curriculum. To be more specific, the interview itself requires the participants to navigate difficult concepts and Tier II vocabulary in English in order to articulate their responses. This presents the high challenge associated with the mastery orientation or helpless behaviors Dweck and Leggett (1988) describe. Although all three participants will have the same environmental language supports from the lessons, such as the vocabulary cards with pictures and the sentence stems, part of the interview process will be the teacher-researcher’s observation of students’ different reactions in their personal moments of high language challenge. Their behaviors will give insight into how they are experiencing, or integrating, the Growth Mindset concepts. What strategies are the participants using in order to maintain communication? What affective factors do they demonstrate, and how do they respond
to those emotions? What questions of clarification do they ask? Do they revert to using Spanish, knowing that the assistant and I are both Spanish speakers?

Finally, Chapter 5 will explore the relationship between what the participant says (how he/she consciously experiences the curriculum) and what the participant does in the moment of high language challenge (how he/she subconsciously integrates the concepts)? This final reflection will be the most critical for the teacher-researcher, because it refers back to the anecdotal problem observed at the beginning of Chapter 1: students at the research site tend to abandon effort, ask for teacher guidance, and/or speak Spanish in moments of high challenge. Analysis of students’ conscious and subconscious experiences with the curricular objects will be used as a formative assessment to make future recommendations for additional lessons on the Growth Mindset that show students how using English makes their bilingual brain even more bilingual. These recommendations will be given in Chapter 5. The following section will list some limitations to the present action research.

Limitations

There are some limitations to the present research that should be noted. First, the size of the study is very small, and four students did discontinue their participation in the middle of the study. Second, the interviews took place on the day after the final lesson, but seven weeks had passed since the initial lesson. Perhaps students will recall the content of the final lesson more easily than the initial lesson, and this might affect their after-intervention questionnaire results and interview content. Third, two lessons needed to be taught in the afternoon due to scheduling conflicts. Student attention and behavior is observed to be poorer in the afternoon than the morning, and this could affect student comprehension of those lessons. Fourth, differences in individual students’ English levels at the start of the study must be considered; it is only logical
that students with the highest language input skills (listening and reading) will comprehend more of each lesson, but all students did receive language supports (pictures, videos, vocabulary direct-instruction, hands-on activities, sentence stems) However, the fifth and largest limitation is that the second research question only uses the student interviews as a data collection method, which does not provide data triangulation. An additional method, such as questionnaire items that correspond with specifically with the Growth Mindset qualities and beliefs about language learning would be valuable. Last, parent dialogue and cultural beliefs in regards to Growth Mindset beliefs is an unknown factor; these factors may reinforce the curricular objectives or they may presenting stronger, alternative ideas. An additional study with the objective of determining these ideas would strengthen the present research.
Chapter 4: Results

Student Reported Changes to Growth Mindset Qualities Before and After the Intervention

The overall average reported change to students’ mindsets, as quantified on the Perceived Controllability and Stability of Outcome questionnaire, was minimal (-0.4%). Students overall average change only decreased from 72.8 points to 72.4 points out of 100 possible. However, the class average and average change gave a superficial look at how students report changes to their Growth Mindset qualities, as shown by the diverse scores of Figure 1.

Figure 1. Individual student results of overall score of before (blue) and after (red) questionnaire; change between overall score (orange) between questionnaires.
The participant group had a range of 27 points (1 to 28) for the reported change to their Growth Mindset qualities. This range included all twenty questions from the three subtopics: Effort, Persistence, and Quality of Strategy; Contingent Self Worth; and Stability of Traits, and as previously stated, there are 100 points possible on the questionnaire. The range of the raw score for the before questionnaire was 34 points (61 to 95), while the range of the after questionnaire was 58 points (98 to 40). The range of the after questionnaire was significantly lower due to the change of one outlier with the pseudonym Hernan Aguilar (-21 points). In addition, the highest and lowest before and after raw scores were held by the same students: the high scores, by a student with the pseudonym Paloma Estrada, and the low scores by Hernan. Hernan and Paloma’s reportings of changes to their Growth Mindset qualities, as shown by the questionnaire, will be mentioned throughout Chapters 4 and 5 because these two students reported changes to their mindsets significantly differently than the average student.

In order to fully answer the research question, it is necessary to analyze whole group trends in each subtopic and some individual questions within the subtopic. It is also necessary to compare certain students’ responses between the subtopics and in relationship to the group average. Finally, it is important to compare the three focal participants’ interview responses alongside their questionnaire reportings, and compare these participants’ questionnaire responses with the whole group trend in order to answer the research questions:

1. How do second-grade Colombian English language learners report changes to their Growth Mindset qualities following a six-week Growth Mindset intervention?
2. How do second-grade Colombian English language learners perceive their language learning ability following a self-evaluation of Growth Mindset qualities?
Second grade language learners had diverse reporting of Growth Mindset qualities. Although overall average reported change is -0.4%, Figure 1 shows that four students had an overall positive change of more than ten points (10%). Two of these four students had a change of nearly twenty points (20%). Five students had an overall change of less than five points, but two students had an overall negative change of more than twenty points, with one of these students having an overall negative change of almost thirty points (30%). Four students had a raw score of above 80 points on the before questionnaire, and none of these four students’ scores dropped below 75 points on the after questionnaire. These whole group trends provide the data and rationale for selecting the focal participants.

As detailed in Chapter 3, three focal participants were selected to complete a fifteen-minute private interview. The first student selected has the pseudonym Fernanda Lopez, and Fernanda was the “low Growth Mindset” focal participant. Fernanda’s had the most negative change to her overall Growth Mindset score (-28 points), and her after questionnaire raw score is one of the lowest of the group (46 points). The second student selected had the pseudonym Thalia Minas. The change in Thalia’s overall score was five. Thalia is the “mid Growth Mindset” focal participant because both her before and after scores were within four points of the group averages (74.8 and 74.4). The third student selected has the pseudonym Juan Manuel Alvarez. Juan Manuel’s had one of the most positive changes to his overall Growth Mindset score (19 points), and his after questionnaire raw score is twelve points above the group average (86 points). Juan Manuel was the “high Growth Mindset” focal participant. The following section will summarize whole group and individual reported changes in regards to the Growth Mindset qualities of effort, persistence, and quality of strategy.
Subtopic 1: Effort, Persistence and Quality of Strategy

The first subtopic of the questionnaire gives insight as to how students’ report changes to the Growth Mindset qualities of effort, persistence, and quality of strategy. There is relatively little average change for the 10 questions that correspond with this subtopic (-0.02 change; 0.04%). Neither Juan Manuel nor Thalia reported greater than a 4% average change for this subtopic, and it is important to note that both Juan Manuel and Thalia had an average score of 4.1 of 5 points (80%) on their after questionnaire. By contrast, Fernanda had an average score of 2.5 of 5 points (50%) on her after questionnaire. Figure 2 further shows that only two participants reported over 1 point change (20%) for this subtopic (-1.1 and 1.1), and the student that reported the -20% average change was Fernanda. Fernanda’s interview responses in regards to this topic aligns with her quantitative data.

Figure 2. Changes in students’ questionnaire score (in points) on the subtopic of effort, persistence, and quality of strategy. The questions of this subtopic are drawn from research about mindsets and academic achievement in students older than nine (Dweck & Leggett, 1988; Blackwell et. al., 2007; Dweck & Mueller, 1998; Grant & Dweck, 2003). They correspond to Part I of the research gap.
Three of the interview questions that Fernanda was asked correspond with the subtopics of Effort, Persistence, and Quality of Strategy. The first two questions were “What have you learned about the brain?” and “How can you make your brain stronger?” Fernanda vaguely responded to the question by stating, “I learned of the brain that is sometimes good for your that is do something of math. I learned that the brain do things.” As for the second question, she responded that the brain is made stronger through playing, doing things, being happy, and being good. At no point did she mention the role of effort, persistence, or strategy in learning new things. After two prompts and repeating the question in Spanish, Fernanda responded to the third question of “How does the brain become smarter,” by stating, “If you do something you have something in your brain to help you remember.” I suggested it may be called neurons, and she quickly agreed, but her comprehension of the word “neurons” was unclear. Finally, Fernanda states that, “I do to a place called Kumon. It is make you gooder at all the things of math.” This comment was the only that references an action the learner can select in order to improve academically. All of her other interview comments on this topic were vague (“the brain do things”) or referred to a static quality of the brain without referencing how the learner can control or influence the quality (“you have something in your brain to help you remember”).

By contrast, Juan Manuel and Thalia’s interview responses indicated understanding of how effort, persistence, and the quality of strategy can make the brain smarter and stronger, which were key concepts of the Growth Mindset curriculum. They gave specific vocabulary, such as neurons and grey matter, to explain how learning challenging material changes the composition of the brain and actually makes the learner smarter. In response to the question, “Tell me what you have learned about the brain,” Thalia gave the following detailed response, “That [the brain] has neurons… [They are] are a special kind of.. kind of… the neurons, it’s
like… when the things you think, the neurons pass it to you and you think.” Juan Manuel gave a similarly detailed response, “I have learned that they grey parts… the dark parts are the parts more intelligent. The white parts are the parts not so intelligent. I have learned the scientists learn about the brain.”

Furthermore, both Juan Manuel and Thalia connect their understanding of the neuroscience about learning and the brain with specific actions they can take in order to improve academically. In response to the question, “What do you say to yourself when something is really challenging, Juan Manuel responded, “I keep looking at it… I bump my head sometimes… sometimes, I ask to my mom to help me… I look to the board and remember the things we have learned. Likewise, Thalia responded, “Never give up. You can do it.” Their responses indicated both students use effort and persistence, but only Juan Manuel made reference to strategy (“I look to the board and remember the things we have learned.”) In response to the follow up question, “What do you do when trying again does not work,” both Juan Manuel and Thalia cited asking an adult for help as their reply. Neither student made mention to changing their strategy.

Finally, both Juan Manuel and Thalia were able to explain a specific time when succeed after failure; however, Fernanda was not. Juan Manuel describes how Timed Tests in Math was an example of high challenge that resulted in failure before success, while Thalia referenced learning to ride her bike. Juan Manuel explains, “Well. I failed my first day of fast facts 1 to 100. The next time, I almost finished. Then, I just needed one more row. But soon, I get learning, learning, learning… I get finished. I learned more.” Following the prompt of, “How did you improve?” Juan Manuel stated, “I got better trying and trying. Focusing. And getting bigger answers.” This answer referenced both effort (“trying and trying”) and strategy
(“focusing”). Similarly, Thalia describes how her dad helped her try again and again on her bike. She explains how she didn’t give up until she had succeeded. However, when she was asked what she would do if trying did not work, she again repeated that she would solicit adult help.

In conclusion, the focal students’ interviews on the effort, persistence and quality of strategy questions indicate varying levels of understanding that the structure of the brain can be changed through the learner’s choices. While Fernanda seemed to have a basic understanding that the brain controls learning, she did not explicitly make the connection between how her actions can change the structure of the brain. On the other hand, although Juan Manuel and Thalia referenced effort and persistence as ways to increase learning, only Juan Manuel referenced change of strategy. Furthermore, only Juan Manuel clearly described that only challenging tasks produce learning through increasing neural connections, which was perhaps the most central message of the six-week curriculum.

Apart from individual results, there were some noteworthy whole-group trends on specific questions. Although the group average of the subtopic Effort, Persistence, and Quality of Strategy was insignificant (-0.02), Table 1 shows that Question #9 had an average reported score of less than 2.5 of 5 (50%) on the before questionnaire.

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Table 1. Questions with an exceptionally high or low average score. This table lists questions with an average score of over 4.5 or under 2.5 out of 5 on the before or after questionnaire.
However, Table 2 shows that the greatest positive average change for the participant group of all twenty questions was Question #9 (1.41 points; 28%). This question read, “The most important thing about school is getting 3’s and 4’s.” This question used reverse scoring; in other words, the Growth Mindset was shown if students do not believe that receiving top grades is the most important part of school. Rather, students with a Growth Mindset would believe that learning is top priority over performance evaluation. Juan Manuel’s score remained at 5 for this question, but Thalia’s score went up from 1 to 5. Fernanda’s score remained at 1; Hernan’s score lowered from 5 to 1; Paloma’s score remained at 5 between the two questionnaires.

Table 2 also shows that Question #16 has the greatest negative average change for the participant group of all twenty questions (-0.9; -18%). This question read, “I like easy schoolwork because I never make a mistake.” This question also used reverse scoring; it would be expected that students who respond “Not at all like me” would have the highest Growth Mindset because they believe only challenging schoolwork produces learning. For these students, easy schoolwork would be perceived as a waste of time. Juan Manuel increased his score on this question from 3 points to 5; Thalia’s score remained at 5. However, Hernan, the student with the overall lowest score on both questionnaires, kept his score at 1, and Fernanda reduced her score from 5 to 1 point. Paloma’s score remained at 5 points. Further discussion as to why these two questions resulted in the greatest average positive and negative reported changes can be found in Chapter 5.
The subsequent section will summarize whole group and individual reported changes in regards to the Growth Mindset quality of Contingent Self Worth.

**Subtopic 2: Contingent Self-Worth**

Figure 3 shows that there is the greatest variability between student participants on the Growth Mindset quality of Contingent Self Worth. The range of students’ average reported change for the four questions that correspond with this subtopic was -3.75 points (-75%) to +0.1 points (+20%). The average reported change for this subtopic was -0.5 points (10%).
However, there is one outlier whose reported changes skews the data: Hernan Aguilar, who had the average reported change of -3.75 points. Table 2 demonstrates that, not counting this student, only 7 of 17 students had a change of 10% or greater, and of these 7 students, five had a change of 15% or greater. However, four of those five students reported a positive change.

Without Hernan’s data included, the average change for Contingent Self-Worth would have been three times lower, at only -0.16 points, (-3% change). Hernan’s average reported changes for the other two subtopic were both less than 10%, with one being a negative change and the other a positive, but the change to his overall raw score was -21 points (Table 5).
to why Hernan may have lowered his score in only the area of Contingent Self Worth and suggestions for how to support a student such as Hernan can be found in Chapter 5.

In regards to the other focal participants, Juan Manuel reduced his average score for this subtopic from 4.75 to 4 points between the pre and post-test; Thalia’s average score remained the same at 4.75 points; and Fernanda reduced her average score from 4 to 2.8 points. Paloma’s score remained at 5 points for both questionnaires.

In addition, the content of Juan Manuel, Thalia, and Fernanda’s interviews were markedly different. As indicated in the previous section, Juan Manuel and Thalia demonstrated a willingness to describe how they learned from failures, while Fernanda was hesitant to admit failure.

However, Fernanda was quick to point out that she is intelligent by comparison to her peers, while Juan Manuel easily and comfortably described that different people are intelligent in different ways, and all people are special. In order to contextualize these findings, it is important to remember that those with a Growth Mindset are focused on learning and challenge, while those with a more Fixed Mindset are focused on appearing smart. Juan Manuel and Fernanda’s responses illustrated this difference. Juan Manuel stated:

Every people is smart. Everyone. Even my brother is smart. My brother knows how is 1 multiplied by 1. And everyone can know this. Everyone, even if they don’t know mathematics, they can be special in something. But that makes them intelligent. But if you try the easy things, you’ll never learn. But, if you try challenging things, you’ll learn. Try doing challenging things. Try doing your things, and you’ll be learning.

By contrast, Fernanda responded that it is “not a good idea” to call some students smart and other students with not smart because, “If you say that some students are smart and other students are not smart, some students can be sad. They go to the teacher and say you said that.”
However, when asked if the statement were true, Fernanda simply responded, “Yes,” and then she further explained that although true, stating some students are smart and others are not to be said aloud. Fernanda expanded on her thoughts by responding to the question, “Why are some students not smart?” by stating, “Some are not intelligent very good. They are not like I am.” Fernanda’s beliefs on whether or not these “not intelligent” students can become more intelligent will be reported in the next section, Stability of Traits.

Although the reportings of Contingent Self-Worth were variable between students, Table 1 shows there was one question in this subtopic that produced an group average of above 4.5 points (90%) on the before questionnaire, but the average fell to 3.9 points (78%) on the after questionnaire. This question, #15, reads, “I am ashamed of who I am because I make too many mistakes.” Four students reduced their score from 5 points to 1 point between questionnaires on this question. One of these students is Hernan, another is one of the two lowest readers of the class, and another is the third greatest negative overall reported change. Fernanda, Juan Manuel, Thalia, and Paloma’s scores on this question remained at 5 points on both questionnaires. The next section will summarize whole group and individual reported changes in regards to the Growth Mindset quality of Stability of Traits.

**Subtopic 3: Stability of Traits**

The average reported change for Stability of Traits of others was 0.3 points (6%). The range of students’ average reported change for the six questions that correspond with this subtopic was wide (-2.3 points to 2.4 points). However, Figure 4 shows the average gives a more accurate picture of the data than the range; 13 of the 17 students reported an average change of within -1 points to 1 point for the subtopic of Stability of Traits.
To be more specific, only one of the six highest average reported a negative change. The student who reported the negative change is Fernanda (-2.3 points). As stated in the previous section, Fernanda’s interview clearly indicates she believes that some students are intelligent and others are not. Fernanda quickly states that she is intelligent, but the behaviors and academic results of other students result in those students failing to be smart. Fernanda states, “They [the unintelligent students]… I think that they talk… they put other things and they think that…” She then pauses for a long time, before receiving the question, “Can they get smarter?” To that question, she responds, “[Yes] By not talking, not playing in the classroom, not do other things that we cannot do.” Overall, it appears Fernanda believes that students’ academic
achievement is a result of their behaviors, but students can change their behaviors and then receive different results.

However, the student who reported the highest positive change was Juan Manuel (2.4 points). His interview clearly indicated that he believes that traits and behaviors can change through intention and practice. As Juan Manuel stated in the previous section, trying challenging things is the key to learning. He acknowledged that different people have different abilities and strengths, but continuing to try and never giving up were key ideas throughout his interview, both for himself and for others.

Thalia also explains how effort and practice can change traits. She describes how the brain actually changes its form after a new experience, as stated in the first section. However, she hesitated and required three prompts to respond to the question, “What would you say to a student who said, ‘Some students can’t learn?’” Thalia begins by stating, “Everyone can learn. Because if we are... can’t... learn, we cannot be good at things.” Then, she paused for nearly fifteen seconds. She continued, “Some are smart, some have new things because they have, like, Kumon.” Finally, she received the prompt, “But is the question true or false?” Thalia paused to think. Then, she stated, “False, because all are smart. But, some are learning new things that have, like, more practice.” Therefore, her questionnaire results may actually align with her interview responses. Her before questionnaire average for the subtopic is 3.3 points; her after average is 2.3; which indicates her reported change is -1 point (-20%). It appears that Thalia wants to believe that everyone can learn, grow, and change, but she observed that some are learning faster than others, and wonders why.

As in the previous two section, there are some questions that produced noteworthy whole-class data. Table 2 shows that Question #6 resulted in the second greatest average
positive change from the before to after-intervention questionnaires. This question falls under the subtopic of Stability of Traits, and it read, “Kids who hit kids and say mean words are bad kids.” This question has one of the lowest average scores on the before questionnaire, at 2.2 points, but it has an average score of 3.1 on the after questionnaire. These values demonstrate that although the average score increased significantly between the questionnaires, the average score on the after questionnaire is still lower than the average score on most questions.

Fernanda’s score decreased from 5 to 1 points between the two questionnaires on this question; Juan Manuel, Hernan and Paloma’s scores remained at 5, but Thalia’s score remained at 1 point. Discussion as to why participants with an overall Growth Mindset may agree with this Fixed Mindset statement will be found in Chapter 5. The next section will address the second research question, which is the relationship between focal participants’ self-evaluation of the Growth Mindset qualities and their beliefs about language learning.

**Student Perceptions of Growth Mindset Qualities in Relationship to Language Learning**

One or two questions in each of the focal participants’ interviews sought to gather insight as to how students relate the Growth Mindset qualities (effort, persistence, quality of strategy, contingent self-worth, stability of traits) with students’ beliefs about language learning ability. These questions sought to evaluate to what degree the focal participants believe their actions (effort, persistence, change of strategy) and attitudes (contingent self-worth, stability of traits) affect their beliefs about language learning. These questions were open-ended and are looked for whether participants can apply their knowledge about how the brain structures change in response to learning to the topic of language learning, which was only addressed in Lesson 5.
As with results to the first research question, the interview results in regards the second research question were varied, with Juan Manuel’s answers connecting language learning with the Growth Mindset qualities and research about the brain the most, and Fernanda doing so the least. Each student’s interview answers will be discussed in turn. In addition, I, the teacher-researcher, will report my observations about students’ affect and behavior during each of their interviews. With my observations, I will give an example of how each student responds in a moment of high linguistic challenge, which references the questions posed in Chapter 3: What strategies did the participants using in order to maintain communication? What affective factors did they demonstrate, and how did they respond to those emotions? What questions of clarification did they ask? Did they revert to using Spanish, knowing that the assistant and I are both Spanish speakers? Discussion as to why participants respond as they do and how to further support them can be found in Chapter 5.

Fernanda’s interview was characterized by asking for the question to be repeated. Fernanda asked for each question to be repeated once, but sometimes twice. When asked “How will learning English help you to become smarter?” Fernanda responds, “Because… what?” After her second request for the question to be repeated, I repeated the question in Spanish. Fernanda responds, “Oh, Because… uhh… estar, I have, to learn English to become smarter.” It is noteworthy to point out that estar means “to be” not “to have.” During this question, Fernanda touches her head, and she has hand in front of her mouth. I responded by asking her to put her hand down so I can hear her. She was also prompted to speak louder and sit up in previous questions. As previously stated, Fernanda received two prompts before the question of “How does the brain become smarter?” is repeated in Spanish. Even then, Fernanda is unable to recall specific vocabulary, and her English grammar was significantly less advanced than Juan
Manuel’s and Thalia’s, as shown here, “I learned of the brain… good for your that is do something of math.” During the whole interview, Fernanda frequently grasped her hands together, rubs her head, and looks around the room. Her facial expressions indicate she felt uncertain and nervous, which is contrasted by her inability to describe a failure situation, and her quick declaration that she is intelligent, “Some are not intelligent very good. They are not like I am.”

While Fernanda appears uncertain and nervous, Thalia appears more relaxed, but pensive. Like Fernanda, Thalia required several prompts because her initial answers are one and two-word and hesitant. As stated in the previous section, some of her responses require a fifteen to twenty-second wait time. In response to the question, “How do you think learning English will make you smarter?” Thalia simply stated, “Reading.” She received the prompt, “Tell me more,” to which she responds, “In class.” Then, she was prompted as to how reading in class will make her smarter in English. She responded, “Paying to attention to the things… to the instruction that you learn. And you can do at your house, you can see movies not in Spanish but in English.” Like Fernanda, it was evident by Thalia’s grammar that she is a language learner. However, while Fernanda answers, “I don’t know,” or asks for the question to be repeated in Spanish, Thalia’s facial expressions demonstrate that she is trying hard to formulate the explanations, but it is difficult for her, as in the following response, “…That [the brain] has neurons… [They are] are a special kind of.. kind of… the neurons, it’s like… when the things you think, the neurons pass it to you and you think.” The explanation was only partially clear, and it is with many hesitations and repetitions, but it demonstrates that Thalia was able to use some English vocabulary she knows in order to be comprehensible. This was a marked
difference from Fernanda’s responses, which tend to be very short, even after two prompts, and sometimes use Spanish to describe basic things, such as *jugar* (to play) and *aprender* (to learn).

While Thalia’s response mentioned two actions a language learner can take in order to improve (listening in class and watching English movies), Juan Manuel’s response connected how learning a language can make a person smarter. In response to the same question that Thalia received, Juan Manuel responds, “Because if I study English, my brain is going to get more darker. And this will show me that I am going to be learning something new. And this will make me more intelligent. But, I must be telling you something else…” He continued by explaining how his mother is teaching him an indigenous language of Colombia. As he give two examples of the words he has learned, his smile and the way he moves his hands indicate he finds the experience very interesting. Of all the participants, Juan Manuel appeared the most comfortable with the interview process. He seldom asked for the question to be repeated, always responded on topic, and almost always expanded on his answers without prompting. He used Spanish only twice, and both examples are a single word that does not interrupt the flow of his description. Only once was he asked to modify his behavior during the interview (“Sit down properly in the chair so you don’t fall out [of the chair]”). He makes connections to his family and personal experience, such as, “…Even my brother is smart. My brother knows how is 1 multiplied by 1.” Finally and most importantly, Juan Manuel was the only focal participant that is observed to refer to the bulletin board with the vocabulary and pictures and then using the Tier II words correctly.

Focal participants’ responses to the interview questions about how learning English makes them smarter had varying results. First, Fernanda’s response was vague, only stating that learning English is necessary to become smarter. Second, Thalia mentioned two actions that
could be classified as effort or quality of strategy that she could use to improve English: paying attention in class and watching English movies at home. Last, and most noteworthy, Juan Manuel explicitly referenced neuroscientific research by stating that learning English will make him smarter by increasing the grey matter of his brain. Of the three interviews, only Juan Manuel, the “high Growth Mindset” participant example, placed language learning ability alongside other Growth Mindset qualities of effort and quality of strategy as controllable and unstable attributes. The following section will present researcher predictions as to why the whole group and individual results occur as they do. In addition, this next section will give suggestions for future interventions for students with lower after-intervention questionnaire results or a decreased score between the questionnaires.
Chapter 5: Discussion

This chapter will provide predictions for why whole group and individual results occurred as they do. In addition, it will give suggestions for future interventions for students with lower after-intervention questionnaire results or a decreased score between the questionnaires. As stated in Chapter 3, two limitations of the current study were students’ English levels at the start of the study and individual families’ dialogue and general cultural beliefs in regards to Growth Mindset beliefs. These two limitations will be the first to be discussed.

First, Paloma Estrada was a generally high-achieving student with exceptional class participation and oral English skills. Paloma made the greatest improvement on the NWEA Map test\(^3\) in English Reading between the September 2016 evaluation and the February 2017 evaluation. By contrast, Hernan was the lowest achieving English reader of the class. He entered as the third-lowest reader in August 2016, but made no improvement on his Fountas and Pinnell reading level\(^4\) between August to December, which has resulted in him now being the lowest reader of the class. His in-class behavior has been characterized by off-topic comments and complaints and refusal to complete classwork. The third student, Fernanda, excels in Math, and she is the fastest and most accurate student in the class in fact computation. However, she has been observed to announce her fact computation scores and compare her results with her classmates. She gloats that she mastered the division tables while other students have yet to complete their addition tables. Fernanda entered as the lowest English reader, but she made

\(^3\) The NWEA Map test is created by the Northwest Evaluation Association (NWEA) as a Measure of Academic Progress (MAP). It is a personalized test taken on the computer to measure students’ proficiency as compared to a norming sample and track student growth in the core subjects.

\(^4\) Fountas and Pinnell reading tests are used to provide teachers with texts and materials to evaluate students’ reading level and plan instruction.
significant improvement between September to December 2016. Now, she is the fourth or fifth lowest reader of the class. Thalia and Juan Manuel’s achievement and behavior demonstrated a significant contrast to that of Hernan and Fernanda’s. Both Thalia and Juan Manuel are high achieving students; their NWEA Map scores in both English Language Arts and Math were above average for second grade as of February 2017. They have excellent oral English participation, and consistently demonstrate a willingness to learn and collaborate by asking questions about what they do not understand, completing their schoolwork, and working well with a variety of male and female peers. Juan Manuel has a parent who speaks English fluently, and the parent mentioned at conferences that English is spoken at home.

These anecdotal observations indicate there was variability of English language achievement between the participants, and it is interesting to note that Fernanda and Hernan, the students with the greatest negative overall change between the before and after questionnaire, also had lower academic records in English reading. Likewise, Juan Manuel and Paloma have the highest Mindset questionnaire scores and they also were observed to make the most growth in English reading (Paloma, as shown on the NWEA Map, and Juan Manuel, as shown by the increase in his Fountas and Pinnell reading level). Questions for further research include: What are the connections between students’ Mindsets and their academic growth? How do students’ initial English levels influence their ability to comprehend the curriculum and describe their beliefs about the Growth Mindset qualities? To expand on this question through referencing the data, Fernanda tended to report short, general answers to the interview questions and Fernanda had one of the lowest English reading comprehension levels of the class and the lowest observed class participation. As a language teacher, I must ask myself if the interview gave accurate insight to Fernanda’s beliefs about her mindset, or rather did her interview answers
indicate that she needed different, more intensive supports in order to better elaborate her responses? For example, how would Fernanda’s responses have been different if I would have given her a sentence stem for responding to each question, such as, “Studying English will…” or a vocabulary word bank with pictures on the table in front of her?

Second, although students had varying levels of English, very few responses indicated a preference for challenging work that required evaluating the quality of the learning strategy. As stated in Chapter 4, the question with the greatest average negative change was about preferring easy work so mistakes are not made (-0.9 points; -18%). As for the student interviews, only Juan Manuel stated that challenging tasks are necessary for learning. Furthermore, all focal participants cited getting adult help as a solution for how to respond when one’s strategy fails. Therefore, I return to the anecdotal problem observed in Chapter 1: students at the research site solicit adult help at the first sign of failure. The whole-group results of the current study indicated a clear preference for easy work that ensures success, even after one of the most central ideas of the six-week intervention was that only challenging work results in learning. Even Juan Manuel, who acknowledged that working on easy work does not produce learning, stated that he would go for adult help instead of mentioning trying a different strategy following failure. These results caused me to question what home and/or cultural beliefs implicitly taught in regards to self-direction and independent learning. It may be valuable for the school to teach a parenting class about how to cultivate a love for learning through challenge in the students.

After analyzing and reporting the data, there was an area of unexpected, concerning results that requires follow up lessons with the students. These are the results of the contingent self-worth questions on the questionnaire. Although the student reports of contingent self-worth were variable between students, Table 5 shows there was one question in this subtopic that
produced an group average of above 4.5 points (90%) on the before questionnaire, but the average fell to 3.9 points (78%) on the after questionnaire. This question, #15, reads, “I am ashamed of who I am because I make too many mistakes.” Four students reduced their score from 5 points to 1 point between questionnaires on this question. One of these students is Hernan, another is one of the two lowest readers of the class, and another is the third greatest negative overall reported change. The fourth student is an average-achieving student in English and Math. Furthermore, question #8 also produced a group average of over 4.5 points, but the average fell to 4.2 points on the after questionnaire. This question reads, “I am proud of who I am, even if I sometimes make mistakes.” What factors contribute to students increasingly reporting feelings of shame (or lack of pride) as a result of their mistakes when I have been teaching since September that mistakes are a normal part of learning? Furthermore, the second-grade parents plan a 45-minute lesson during school once a month which reinforces non-cognitive skills, such as valuing oneself and others and avoiding criticizing others. Why are students reporting increasing feelings of shame?

Based on the results of my study, I recommend that an additional intervention be designed for the second graders in order to communicate that their self-worth is not hinged on their performance. However, it is important to acknowledge that the academic culture of the school very likely does contribute to feelings of conditional self-worth. To further explain, the school has a practice of sending Promotion and Evaluation Committee letters to families whose children are failing or at risk of failing the year. In Colombia, failing two classes one semester results in failing the semester, and failing the same class for two consecutive semesters results in repeating the grade level. In other words, there is a strong emphasis on getting high grades. As a result, I observe the majority of requests for parent-teacher meetings come as a result of
receiving the formal Promotion and Evaluation Committee letter. Parents are upset, disappointed, and angry if they receive the letter; it can be presumed there is a complicated relationship between the cost of the education and a student’s lack of achievement when the letter is received.

Perhaps Alfie Kohn (2015) is correct in his criticism of praise, which Dweck (2016) does argue should be used sparingly. Kohn (2015) vehemently denies that adult approval when students complete the adult expectation; he argues that this type of praise, which includes grades, lends to conditional adult affirmation. Instead, he argues, students need unconditional support, which includes unconditional judgement and continual guidance. Perhaps the school needs to open a larger conversation on how the importance of receiving high grades affects students’ perception of learning for the love of growth and challenge. I suggest that the school does away with comparative practices, such as certificates for the highest NWEA Map score of each grade level of Best Non-Fiction Book at the end of the writing unit. In addition, teachers should change their practices of handing back graded papers during class. I anecdotally observe that my second grade students are quick to announce their scores aloud, despite many conversations about the value of growth over static proficiency. Instead, the teacher should give only feedback on written assignments, including math tests. There should be at least one opportunity to show improvement following the summative assessment. Young students should be told their grade a very limited number of times throughout the semester in a one-on-one conversation with the teacher, and this conversation should include acknowledgment of student growth as well as specific suggestions for improving the grade. In conclusion, Dweck (2016) discusses how students form a Growth Mindset through the teacher’s actions over their words. Because the parents at the research site are so concerned about student grades, the teacher must
be especially overt in valuing learning over performance, particularly performance without growth. Awards should be given for non-cognitive skills and growth; feedback, not evaluation, should be given in class; and any mention of grades should come with specific suggestions for improvement.

In general, the results of the present study do not align with Blackwell’s et al. (2007) findings. While Blackwell et al. (2007) finds a strong, positive relationship between their Growth Mindset intervention and math achievement, the students of the current investigation report a variety of changes to their overall mindset, giving a very minimal average change. In addition, there is a variety of responses within individual questions, and there is not a general increasing or decreasing trend from the before to the after questionnaire. Some questions result in an average increase, others in an average decrease, and others almost no change. Therefore, it can be concluded that a variety of family and cultural factors affect the students’ mindsets perhaps more strongly than in-school factors. In order to respond, the research site needs to adopt school-wide language and expectations regarding the value of loving challenge and improving over simply meeting the grade-level standard.
References


doi:10.1080/0141192022000005805


Appendix A

Before and after intervention questionnaire.

<table>
<thead>
<tr>
<th></th>
<th>No estoy de acuerdo</th>
<th>Casi nada de acuerdo</th>
<th>Parcialmente de acuerdo</th>
<th>De acuerdo</th>
<th>Completamente de acuerdo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A mí me gustan las tareas que me hacen aprender, aun si hago muchos errores.</td>
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<td>2. Si fracaso al resolver un problema, yo intento una y otra vez, hasta encontrar una solución.</td>
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<td>3. Yo sigo intentando, aun si mis tareas son muy difíciles.</td>
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<td>4. Yo soy un buen niño/a, aun si a veces hago y digo cosas desagradables.</td>
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<tr>
<td>5. Lo más importante del colegio es seguir aprendiendo más.</td>
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<tr>
<td>6. Los niños quienes pegan a los demás y dicen palabras desagradables son niños malos.</td>
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<tr>
<td>7. Los niños quienes pegan a los demás y dicen palabras desagradables siempre pegaran y dirán palabras desagradables.</td>
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<tr>
<td>8. Yo estoy orgulloso/a de quien soy, aun si a veces hago errores.</td>
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</tbody>
</table>
| 9 | Lo más importante del colegio es sacar las calificaciones en 3 y 4.  
   The most important thing about school is getting 3’s and 4’s |   |   |   |   |   |
| 10 | Yo soy un mal niño/a porque yo a veces hago o digo cosas desagradables.  
    I am a bad kid because I sometimes say or do mean things. |   |   |   |   |   |
| 11 | Los niños muy inteligentes no tienen que esforzarse en el colegio.  
    The really smart kids do not have to work hard in school. |   |   |   |   |   |
| 12 | Yo hago mis tareas porque las quiero mejorar.  
    I do my schoolwork because I want to get better at it |   |   |   |   |   |
| 13 | Si no entiendo mis tareas, dejo de trabajar.  
    If I do not understand my schoolwork, I stop working. |   |   |   |   |   |
| 14 | Algunos niños nacen inteligentes. Otros niños no nacen inteligentes.  
    Some kids are born smart. Other kids are not born smart |   |   |   |   |   |
| 15 | Yo estoy avergonzado/a de quien soy porque hago demasiado errores.  
    I am ashamed of who I am because I make too many mistakes. |   |   |   |   |   |
| 16 | A mí me gustan las tareas fáciles porque nunca hago ningún error.  
    I like easy schoolwork because I never make a mistake. |   |   |   |   |   |
| 17 | Los niños que sacan muchos 1 no son niños inteligentes.  
    Kids who get a lot of 1’s are not smart kids. |   |   |   |   |   |
| 18 | Si no entiendo mis tareas, yo pregunto a la profesora de explicarlas mejor.  
    If I do not understand my schoolwork, I ask the teacher to explain it better. |   |   |   |   |   |
| 19 | Los niños quienes sacan muchos 4 siempre sacarán 4.  
    Kids who get a lot of 4’s will always get 4’s. |   |   |   |   |   |
20. 
Yo hago mis tareas solo porque quiero sacar en todo 3 y 4.
I do my schoolwork because only because I want to get all 3 and 4.

<p>| | | | | |</p>
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Scoring Guide
Each question was scored on a 1 to 5 point scale, with “not at all like me” receiving 1 point, and “exactly like me” receiving 5 points. A higher number of points is more indicative of a Growth Mindset. Questions #6, 7, 9, 10, 11, 13, 14, 15, 16, 17, 19, 20 are reverse scoring.

*The English translation was removed from the student copy.*
Appendix B

This curriculum is a six-week intervention for second graders adapted from Blackwell, Dweck and Trzesniewski’s (2007) scope and sequence for the experimental group in their seminal study on the relationship between the Growth Mindset and academic gains in math for seventh graders. Like Blackwell et al., I plan to do approximately hour-long sessions. However, my last week will have two sessions. The researchers suggest that even a brief intervention on the Growth Mindset most likely is the key factor for reverting the common decrease in achievement observed in seventh grade math students. Blackwell et al. make this claim because the control group, which only learned study skills, demonstrated a continual decrease in achievement over time, but the experimental group showed an initial decrease in achievement, followed by an increase after only a few months of the intervention.

<table>
<thead>
<tr>
<th>Summary Chart</th>
<th>Blackwell’s et al. (2007) curricular scope and sequence for the seventh grade math experimental group</th>
<th>My Growth Mindset curricular scope and sequence adapted for second grade, English Language Learners in Colombia</th>
</tr>
</thead>
</table>
|               | **Topic**  
The Brain is a Muscle |
|               | **Vocabulary**  
intelligence, brain, challenge, neuroscientists, Growth Mindset |
|               | **Direct Instruction**  
Class Dojo Chapter 1: A Secret About the Brain |
|               | **Discussion Questions**  
1. Can Mojo become smarter? How?  
2. How can you make your brain stronger? |
|               | **Language Stem**  
I made my brain stronger when I tried the challenge of ____________.
### Week 2

**The Brain - Structure & Function:**

Brain Anatomy, Localization of Function, Neuronal Structure, Neurotransmission

<table>
<thead>
<tr>
<th>Activity</th>
<th>Assessment (Exit Slip)</th>
</tr>
</thead>
</table>
| Mindsetkit.org: Growth Mindset Pictures, second grade art lesson  
*Sketch a representation of a strong brain  
*Color using marker  
*Examples: Brain lifting weights, brain with light bulb, brain with wings, etc. | 1. What did you learn about the brain? |

<table>
<thead>
<tr>
<th>Topic</th>
<th>Vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
<td>How the Brain Learns</td>
<td>neuroscientist, neurons, electrical signal, neuroplasticity, challenge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Direct Instruction</th>
<th>Discussion Questions</th>
</tr>
</thead>
</table>
| 1. Class Dojo Chapter 4: The World of Neurons  
2. Brain Jump with Ned the Neuron | 1. What are neurons?  
2. How do neurons make connections?  
3. How can you make new neural connections this week? |

<table>
<thead>
<tr>
<th>Language Stem</th>
<th>Activity</th>
</tr>
</thead>
</table>
| This week, I will make neural connections by taking on the challenge of ________. | 1. Show neural connections by having students pass a ball of string together  
2. Show neuroplasticity by having students use clay to make imprints with stamps |

<table>
<thead>
<tr>
<th>Assessment (Exit Slip)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How does your brain learn new things?</td>
<td></td>
</tr>
</tbody>
</table>
| Week 3 | **Incremental Theory Intervention**  
*Reading* (read aloud): “You can grow your intelligence”  
*Activity:* “Neural Network Maze,” showing how learning makes you smarter | **Topic**  
Learning Makes you Smarter  
**Vocabulary**  
failure, strategy, effort, persistence, mastery orientation  
**Direct Instruction**  
Class Dojo Chapter 5: Mojo puts it all Together  
**Discussion Questions**  
1. How does it feel when something is too challenging?  
2. How should we respond when something is very challenging?  
**Language Stem**  
When something is very challenging, I can show mastery orientation by ____.
 | **Activity**  
1. Matching activity on changing inner dialogue following failure using Fixed and Growth Mindset statements with partner.  
2. Skits on one failure scenario. First, the partnership will present the Fixed Mindset following failure. Then, they will present the Growth Mindset response.  
**Assessment (Exit Slip)**  
1. How can we become smarter? |
| Week 4 | **Incremental Theory Intervention**  
*Reading* (read aloud): “You can grow your intelligence”  
*Activity:* “Neural Network Maze,” showing how learning makes you smarter | **Topic**  
When Effort Isn’t Enough  
**Vocabulary**  
failure, strategy, learning, change, mastery orientation  
**Direct Instruction**  
Read Aloud *The Most Magnificent Thing* by Ashley Spires |
### Discussion Questions
1. How can mistakes help us to grow our intelligence?
2. Is it o.k. to take a break when our efforts do not work? Why or why not?
3. What should we do when a strategy does not work?

### Language Stem
I failed when _____. I showed mastery orientation by ________.

### Activity
1. Fail acronym collage. The F.A.I.L. acronym stands for First Attempt In Learning. Students will make a collage with the letters and write the acronym.

### Assessment (Exit Slip)
1. What do people with a Growth Mindset do when they fail?

### Rationale
Kohn (2015) strongly criticized the Growth Mindset, interpreting the theory to communicate that failure should be met with dogged effort and unquestioned persistence. However, Dweck (2015; 2016) responds to the criticism by reminding educators that the central idea of the Growth Mindset is that learning is made possible through engaging with challenging material. Often times, this requires ongoing dialogue between the teacher and student as the student changes his/her strategy to respond to the dynamic nature of the problem. Dweck (2016) states that effort without performance outcome only serves to increase the student’s feelings of inaptitude.

### Topic
Language Learning Grows your Brain

### Vocabulary
MRI, neuroscientist, cognitive flexibility, memory, grey matter

### Direct Instruction

<table>
<thead>
<tr>
<th>Week 5</th>
<th>Not included in Blackwell’s et al. plans</th>
</tr>
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<tbody>
<tr>
<td></td>
<td><strong>My Rationale</strong></td>
</tr>
<tr>
<td></td>
<td>The mastery orientation and helpless response are mentioned in a few studies on motivational theories within EFL and SLA for adolescents (ages 10-16). These studies analyze the</td>
</tr>
</tbody>
</table>
The relationship between the reason the learner attributes to the language learning outcome and language learning success versus failure (Williams & Burden, 1999; Williams et al., 2002; Gobel & Mori, 2007; Williams et al., 2004; Hsieh & Kang, 2010). This is called attribution theory (Weiner, 1979). The trend in attribution theory and language learning is that students tend persist when they attribute the outcome to effort, quality of strategy, and interest, and tend to give up when they attribute the outcome to ability. However, this lesson demonstrates how the act of learning a language affects the brain. Students take a Growth Mindset by learning how engaging in language study increases cognitive flexibility, memory, and executive control; these factors all contribute to increased neural connections, which Blackwell et al. (2007) refers to as “how learning makes you smarter” (Sessions 3 and 4).

**PowerPoint**
- YouTube video: MRI scan for children

**Language Stem**
- Bilingual brains are different because bilinguals can ___.
- I will grow my bilingual brain by ___.

**Activity**
1. Idioms activity and translation game- whole class
2. Sort shapes- in pairs
3. Riddle
4. Concentration

**Assessment (Exit Slip)**
How are bilingual brains different?

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| Week 6 | (Sessions 5 and 6 of Blackwell et al.) Anti-Stereotyping Lesson: slides, activities, discussion to illustrate the pitfalls of stereotyping  
Study Skills Lesson: Slides, lecture, discussion, handouts teach time management and study skills. | Topic  
All People are Unique and Can Learn  
**Vocabulary**  
stereotype, unique, quality, smart, dumb, good, bad  
**Direct Instruction**  
1. Read Aloud Amazing Grace by Mary Hoffman  
2. Point out how Grace took on the challenge by practicing her part, believing in herself, accepting help, and trying new strategies  
**Discussion**  
1. What qualities did Grace have that make her unique?  
2. What qualities make you unique?  
3. How did Grace and her mother show a Growth Mindset?  
**Language Stem**  
A stereotype is when _____. All people are unique, and my qualities are _____. |
### Activity
1. Everybody is Unique: First, students draw a head, body, and feet. Then, students are assigned in groups of 3 and given one head, body, feet at random. Next, students create a new “person” who has totally unique qualities, but has been influenced by different parts of his/her community. Last, students write why the mixed-up character is to be valued in our class.

### Assessment (Exit Slip)
Another child tells you, “Some people just can’t learn new things.” How would you respond?

<table>
<thead>
<tr>
<th>Session 7</th>
<th>(Sessions 7 and 8 of Blackwell et al.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(to be completed in the sixth week)</td>
<td>Discussion: Learning makes you smarter; Labels (ie: stupid, dumb) should be avoided</td>
</tr>
</tbody>
</table>

### Topic
People can Change by Learning and Growing

### Vocabulary
neuron, challenge, journey, dip, frustration

### Direct Instruction
1. Class Dojo, Series 2, Chapter 1: The Dip
2. YouTube: Famous Failures

### Discussion Questions
1. What is a dip?
2. If a student is in the dip, do you think it will always be that way?
3. How does a student get out of the dip?

### Language Stem
One time, I was in the dip when ___, but I kept on the journey by ___.

### Activity
1. This part will be integrated with the Science block. Students will work in a team to complete a simple STEM
challenge. We will stop after 20 minutes of working and self-assess using the analogy of a rollercoaster track.

a. Does the student feel “top of the mountain” because his/her ideas have produced?
b. Does the student feel “an upward climb” because the ideas are coming together?
c. Does the student feel “the dip?”

Students will be reminded all stages are a normal part of the learning process, and the results change with time.

Assessment (Exit Slip)
1. What did you learn about the dip?
2. How is learning like a rollercoaster track?

Blackwell et al., 2007, p. 255

Resources

https://www.classdojo.com/bigideas/

Sessions 1 and 2

Vocabulary & sort: https://www.teacherspayteachers.com/Product/Growth-Mindset-FREEBIES-2143407

Art Lesson: Draw strong brains: https://www.mindsetkit.org/practices/0eEJaGX0JjmPQV8K

Brain Jump with Ned the Neuron: https://www.youtube.com/watch?v=g7FdMi03CzI

Activity: Neuroplasticity clay brains https://faculty.washington.edu/chudler/plast.html

Sessions 3 and 4

In the task, students had to sort the shapes by color. The blue circles in the bin with the blue square. And the red squares in the bin with the red circle. Then, students had to sort by shape. Which meant ignoring the color. The bilinguals did this task faster than the non-bilinguals. Why? Because bilinguals
can ignore information that is not important. The part of the brain responsible for telling us what is important is less active for bilinguals, which means we do these kinds of problems better.
Appendix C

Question Bank for Participant Interviewees.

Interview procedures

• The interview will be 15 minutes long
• The interview will be in the classroom and be taped by the teaching assistant
• The number of questions will vary depending on the length of the students’ answers
• “Questions about language learning” is central to my study, and all focal participants will be asked at least one question from this section.
• I will ask one question from each section before asking a second question from any one section

Questions about the brain

1. What have you learned about the brain?
2. How can you make your brain stronger?
3. What can you tell me about neural connections?
4. How does the brain learn new things?

Questions about increasing intelligence and responding to failure

1. How can you become smarter?
2. How does it feel when something is very challenging?
3. What do you say to yourself when something is too challenging?
4. Tell me about one time you failed and what you did next.
5. What do you think about taking a break and then starting again when you fail? Why?

Questions about language learning

1. Tell me some ways bilinguals think differently than monolinguals? (non-bilinguals)
2. What did you learn about how neuroscientists study bilingual brains?
3. How do you think studying English will help make you smarter?

Questions about avoiding stereotype

1. What would you say to a student who told you, “Some people just can’t learn?”
2. Tell me about one time you were in the “dip” and what you did next.
3. What would say to a student who was in the “dip?”
4. What do you think about calling some students “smart” and other students “dumb?” Is this a good idea? Why or why not?