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Habits of Mind and Comprehension: A Teacher's Resource for Standards-Based Integration With a Growth Mindset

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HABITS OF MIND AND COMPREHENSION:
A TEACHER'S RESOURCE FOR STANDARDS-BASED INTEGRATION WITH A GROWTH MINDSET

By

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"A mind stretched to a new idea never goes back to its original dimensions."
-Oliver Wendell Holmes, Sr.
American poet and physician

To Eric Christensen, for whom the
“Habits” are way of enjoying what life has to offer.

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CHAPTER ONE
Introduction

Comprehension and developing comprehension in students is has always fascinated me. I also have been engrossed in ways to increase critical thinking in my students. I became interested in Habits of Mind (Costa & Kallick, 2008) while reading research for classes that fulfilled my gifted and talented certification. These Habits of Mind (Costa & Kallick, 2008) were a way to encourage deeper more complex thinking patterns in gifted students. I began to realize that these Habits of Mind (Costa & Kallick, 2008) could also bring students performing at grade level or below up a level of cognition as well. I also noticed that comprehension strategies I was currently teaching in the spring of 2017 during my language arts instruction correspond to particular Habits of Mind (Costa & Kallick, 2008). I then decided to create a matrix combining

the two and matching them up to Minnesota language arts standards. By creating a matrix for teachers to use, comprehension could be elevated to levels previously not achieved.

Background

Habits of Mind is defined by Arthur L. Costa as "16 attributes that humans display when behaving intelligently"(Costa & Kallick, 2008, p. 17). Since the fall of 2017, I have been interested in Habits of Mind (Costa & Kallick, 2008) and growth mindset (Myers, Wang, Black, Bugescu, & Hoeft, 2016) both from a teacher's and a learner's point of view. "A growth mindset (an incremental theory of intelligence) is the belief that intelligence is malleable and that one may 'grow' their intelligence and achieve their goals through hard work and dedication" (Myers, Wang, Black, Bugescu, & Hoeft, 2016, p. 1521).

Personally, my ability to accomplish goals and persevere through frustrations has also been enhanced by understanding of a growth mindset. My students benefit from understanding what a growth mindset means to their ability and desire to learn. A growth mindset, according to Myers, Wang, Black, Bugescu, & Hoeft (2016), requires self-regulation of thinking strategies. Students use self regulation of thinking when comprehending a text. I noticed that Habits of Mind (Costa & Kallick, 2008) correlate strongly with comprehension strategies that I teach my second graders. We are required to teach comprehension strategies based on the language arts common core standards. This leads me to my research question: *What are ways to communicate to other teachers the connections between the 16 Habits of Mind and second grade common core language arts standards?* I will create a matrix that is useful for the classroom teacher to implement Habits of Mind combined with comprehension strategies. I will use concepts from growth mindsets (Myers et al., 2016) as a base for showing the students how strategies that

expand thinking help them to learn. The incorporation of technology will be used for some of the teaching strategies as a link to the students' learning through a connectivism mindset (Bell, 2011).

As I was thinking about my research question, memories of my own comprehension was my focus. As a student in the late 1980's and early 1990's, comprehension of a text was an area that I naturally excelled. During reading I would continually be challenging my thinking and self-regulating. I attribute this now to teachers who helped to expand my thinking. At the time, that was how everyone learned to read, or so I thought. It was not until I started teaching that the realization that students needed to be taught self-regulation strategies when reading and thinking occured to me, as this is not a natural process for all.

Students do vary in their ability to naturally be able to comprehend and self-monitor, but my students, for the most part, were not coming to second grade with self-regulation skills needed for critical thinking and comprehension. Many needed explicit teaching in how to monitor their thinking while learning and comprehending a text. The students who were already showing ability in self-regulation skills and comprehension needed strategies to encourage their critical thinking skills. This is where the habits of mind came in, as I had been studying about them within my courses on gifted education. The link between Habits of Mind (Costa & Kallick, 2008), comprehension, and fostering critical thinking skills occurred to me and I decided to research this connection more.

Chapter Overview

This chapter serves to explain the link between a growth mindset (Myers et al., 2016), Habits of Mind (Costa & Kallick, 2008), comprehension in second graders, and connectivism

(Bell, 2011). The background and rationale for completion of a project focusing on a matrix involving Habits of Mind (Costa & Kallick, 2008), and comprehension strategies based on common core language arts standards, is given. My goal is to complete a project that educators can use within their language arts curriculum that takes thinking and comprehension strategies to higher levels.

Research Question

My research question grew out of a need to improve my second graders comprehension and an interest in using Habits of Mind (Costa & Kallick, 2008) in the classroom. Combined with the background knowledge in growth mindsets (Myers et al., 2016), connectivism (Bell, 2011), and my experience in the classroom of seeing an improvement of learning, I set out to form a project that would be useful to educators that is based on research from all areas to create a matrix. This could be executed in a variety of ways but my desire to align with Common Core Language Arts standards (National Governors Association Center for Best Practices, & Council of Chief State School Officers 2010) that drive instruction lead me to my research question: *What are ways to communicate to other teachers the connections between the 16 Habits of Mind and second grade language arts standards?* I plan to carry out this project with a yearning to improve my students comprehension levels no matter if they are currently at grade level, below grade level, above grade level, or in the gifted range. I also want to nurture critical thinking skills that can carry over to disciplines other than language arts.

Rationale and Background Information

In this section, the background information relating to growth mindset (Myers et al., 2016), the Habits of Mind (Costa & Kallick, 2008), comprehension strategies, and connectivism

(Bell, 2011) is explained.. This will provide the rationale for tying these topics together into the matrix. The melding of this information forms the basis for why this project will be an important and helpful tool for classroom elementary teachers.

Growth mindset. The difference in success of a student often lies in something called grit. "Grit is the long-term perseverance for a goal or set of goals" (Myers, et al., 2016, p.1522). It is noticeable that some students are coming into second grade lacking qualities like perseverance. Some students also do not always have the innate desire for a job well done at times. This view has also been shared by other second grade teachers I have on my team. I want to increase my students desire for certain strategies that foster intelligent thinking, like Habits of Mind (Costa & Kallick, 2008). Due to this desire to increase strategies that foster intelligent thinking, I have been focusing on a growth mindset (Myers, et al. 2016) in my own classroom.

Within my classroom, I have been using a curriculum in growth mindset from *Class Dojo* a classroom management app. My students have been able to make the connection between difficulties in the classroom and frustration with concepts by learning strategies like mistakes are magical, the brain is like a muscle, and the power of yet (Class Dojo, 2017). Mistakes are magical covers the frustration students tend to have in making mistakes and explains how mistakes transform into learning. The brain is like a muscle shows how the mind must be challenged or exercised in order to become stronger. The power of yet shows students how not understanding a concept does not mean they can't learn it, they just do not have it yet (Class Dojo 2017). These concepts are helping the students have the correct mindset that lead the way to being able to embrace the Habits of Mind (Costa & Kallick, 2008), which in turn will enhance their comprehension strategies. The Habits of Mind (Costa & Kallick, 2008) are sixteen

strategies that my was the focus for my comprehension strategies when contemplating developing a matrix.

The Habits of Mind. The Habits of Mind developed by Arthur Costa (Costa & Kallick, 2008) include sixteen habits for self-regulation and critical thinking. These habits are Persisting, Managing Impulsivity, Listening with Understanding and Empathy, Thinking Flexibly, Thinking about Thinking (Metacognition), Striving for Accuracy, Questioning and Posing Problems, Applying Past Knowledge to New Situations, Thinking and Communicating with Clarity and Precision, Gathering Data through All Senses, Creating, Imagining, Innovating, Responding with Wonderment and Awe, Taking Responsible Risks, Finding Humor, Thinking Interdependently, and Remaining Open to Continuous Learning. I have used these strategies in the classroom to show the students how to regulate their thinking along with increasing their critical thinking. This is true across disciplines, but I observed the direct tie to comprehension strategies taught within the language arts discipline.This direct link of comprehension strategies and Habits of Mind lead me to further investigate comprehension strategies.

Comprehension. The comprehension strategies I teach in second grade based on Common Core Language Arts Standards (National Governors Association Center for Best Practices, & Council of Chief State School Officers 2010) are summarizing, monitoring understanding, creating images, making connections, main idea, making inferences, comparing and contrasting, determining importance, asking and answering questions, and synthesizing. These core strategies are essential to the second graders ability to use and comprehend text while reading. Second grade, I have found, is a time where many students are moving from mastering basic decoding skills to being ready to focus on more in depth comprehension skills. The Habits

of Mind (Costa & Kallick, 2008) are a way to get those students who are ready for advanced critical thinking skills in comprehension to continue their learning, while providing students at grade level or below to move up the level of comprehension based on where their current learning lies. When teaching these comprehension strategies, I have been thoughtful about incorporating technology along with reading skills.

Connectivism. Students today are presented with a large amount of information, especially when using technology. Strategies for using the information given to them need to be explicitly taught, especially at the primary levels, while they are continually monitoring their thinking. The digital age has presented a need for students to be able to process and sort through information in new ways. When reading, some information is important for comprehension and some is added unneeded information that students need to be able to process. This skill set is needed more now for digital and interactive text, which is becoming more common even in elementary classrooms. The way students are taught to receive and use information to comprehend is evolving and students must now comprehend in a different fashion than in the past. A need for developing a way to teach second graders how to use technology with the Habits of Mind (Costa & Kallick, 2008) and comprehension strategies exists now for second grade teachers.The ability to process all sources of information by combining information and sorting through information in technology is called connectivism:

> The individual does not have control; rather it is a collaboration of current ideas as seen from a present reality. The core skill is the ability to see connections between information sources and to maintain that connection to facilitate continual learning (Duke, Harper, & Johnston, 2013).

Language arts teachers could use a matrix crossing the Habits of Mind (Costa & Kallick, 2008), growth mindsets (Myers, et al. 2016), comprehension strategies, and activities

using technology to structure their curriculum to build comprehension and critical thinking skills. The information and structuring of the matrix can provide a detailed and organized way of incorporating Habits of Mind (Costa & Kallick, 2008), growth mindsets (Myers, et al. 2016), and technology into frequent lessons to foster reading skills that could improve comprehension overall.

Chapter Summary

The development of this project is to facilitate an understanding for educators on how Habits of Mind (Costa & Kallick, 2008) can be used to foster useful comprehension strategies based on common core language arts standards. This project will show teachers who are teaching comprehension strategies how Habits of Mind (Costa & Kallick, 2008) will enhance learning of these comprehension strategies. It will also give specific guidance on how language arts common core standards (National Governors Association Center for Best Practices, & Council of Chief State School Officers 2010) can be aligned with comprehension strategies and Habits of Mind (Costa & Kallick, 2008). Each Habit of Mind (Costa & Kallick, 2008) can be taught through activities that increase comprehension and improve thinking strategies in general within learning in the classroom.

In Chapter Two, the literature covering Habits of Mind (Costa & Kallick, 2008) and comprehension in primary grades is reviewed. My research question guided the literature search because there is a large research base in the area of comprehension and a much narrower research base in the area of Habits of Mind (Costa & Kallick, 2008). My intention was to bridge the two areas to create a cohesive working knowledge in how the two areas overlap and support each other. I was inspired by others who have successfully used Habits of Mind (Costa &

Kallick, 2008) in their classrooms and have also been successful in teaching comprehension strategies in their classroom.

CHAPTER TWO

Review of the Literature

Overview

Through my investigations with Habits of Mind (Costa & Kallick, 2008) in my teaching, I noticed how many of the Habits of Mind (Costa & Kallick, 2008) correlate with comprehension strategies in my language arts curriculum and standards. My idea to explore a project was born and I began to see another connection. I discovered the growth mindset curriculum (Class Dojo, 2017) I was using had a foundation for setting up Habits of the Mind (Costa & Kallick, 2008) instruction. I started to explore my research question, *what are ways to communicate to other teachers the connections between the 16 Habits of Mind and second grade common core language arts standards?*

Comprehension is the basis for understanding the world in print. Mastropieri and Scruggs state that "reading comprehension, the construction of meaning from text, is considered to be the most crucial academic skill learned in school" (as cited by Taboada et al. 2008, p. 87). The joining together of the thoughts of the author into a form that is understandable is the key in students learning from print. "Most theories of comprehension view successful understanding of a text as the identification of the elements in the text and the relationships among those elements to form a coherent structure, a mental representation of the text (e.g., Graesser & Clark, 1985;

Kintsch, 1998; Trabasso, Secco, & van den Broek, 1984; Van den Broek & Kremer, 2000)." (Taboada & Guthrie, 2006, p. 12).

Through teaching second grade reading, I have discovered the comprehension process is one that requires the reader to constantly self-monitor as he or she is changing their ideas of what message the author of the text is trying to convey. This crucial learning skill is developed at the primary level and a strong foundation is needed for continued success in reading. Teaching students to comprehend requires explicit teaching of self-regulation strategies.

The growth mindset (Myers, Wang, Black, Bugescu, & Hoeft, 2016) framework provides a rationale underlying the Habits of Mind (Costa & Kallick, 2008). Teaching students strategies for having a growth mindset can provide a base for Habits of Mind (Costa & Kallick, 2008) which is turn support comprehension strategies. This section will explain how using Habits of Mind (Costa & Kallick, 2008) and having a growth mindset can influence comprehension.

The sixteen Habits of Mind (Costa & Kallick, 2008) and research regarding how they can help students self-regulate their learning and can be applied to comprehension strategies. Teachers can use Habits of Mind (Costa & Kallick, 2008) strategies for instruction for increasing their students comprehension from a text. This section will explain the comprehension strategies that can be linked with Habits of Mind (Costa & Kallick, 2008). Rationale as to why each strategy will be exemplified with a Habit of the Mind (Costa & Kallick, 2008).

The ability to process all sources of information by combining information and sorting through information in technology is called connectivism (Bell, 2011). With an increase in students reading in a digital format, strategies within comprehension and ways students access

this information is different than in the past. This section will explain how connectivism (Bell, 2011) is associated with different ways of learning, how this relates to digital text, and how explicit teaching strategies for comprehension are needed to help students understand in this way. Connectivism (Bell, 2011) was included as a way to structure the activities that correlate with the Habits of Mind (Costa & Kallick, 2008) and comprehension strategies, and to allow for digital skill integration with comprehension.

Growth Mindsets and Grit

The success of a student can be in grit or perseverance (Bell, 2011) to see a task to the end. In my experience, students at the second grade level have to persevere to understand the information in a text if comprehension is to be accomplished, even when it is difficult. Many times I have observed my students stop searching for the meaning when it requires a concerted effort to understand. According to Burnette, et. al (2013), students who continue with a task and have a growth mindset, along with self-efficacy, can show an improvement in the way that the student approaches their ability to comprehend texts:

> A person with a growth mindset so believes in the efficacy of hard work and dedication to improve their abilities, but may not necessarily hold a definitive reward in mind as the outcome. Instead, these individuals self-regulate their learning on a regular basis, characterized by goal setting, goal operating and goal monitoring, employing strategies such as learning from new knowledge and adjusting when errors are made (as cited by Myers et al., 2016, p. 1532).

Students can use this solid growth mindset ideology so that they are able to understand a piece of writing. "Both grit and growth mindset show associations with cognitive-behavioral

control networks" (Myers, et al., 2016, p. 1525). Students need these growth mindset strategies to learn how to control their learning processes by cognition and understanding so that they are capable of higher level learning:

> A growth mindset (an incremental theory of intelligence) is the belief that intelligence is malleable and that one may 'grow' their intelligence and achieve their goals through hard work and dedication ; a fixed mindset (entity theory of intelligence) is the belief that talents and intelligence cannot be changed. (Myers, et al., 2016, p. 1540).

Growth Mindsets for Comprehension. Comprehension can be largely influenced by motivation and attitude towards reading. "A growing body of evidence associates non-cognitive skills with academic outcomes (Blackwell et al., 2007; Duckworth et al., 2007), and thus has begun to gain traction in academic policy" (Myers, et al., 2016 p.1542). Comprehension is a constant state of adjusting and learning new knowledge. From my experience in the classroom, the promotion of a growth mindset (Myers et al., 2016) combined with the specific Habits of Mind (Costa & Kallick, 2008) can be a formula for success within the area of comprehension. The student learns the self-regulatory Habits of Mind (Costa & Kallick, 2008) and applies these strategies in understanding a text. The ability to have a growth mindset (Myers et al., 2016) is what allows these processes to happen. If a student believes he or she can learn and regulate his or her learning, then automaticity in reading comprehension can happen more fluently. This growth mindset is also influenced by cultural norms for the student.

Cultural Framework in Mindsets. According to Kirk (2001), "Efficiently designed integrated thematic units that address all subject areas collectively through reflective planning and cultural

topic selections help students make pertinent connections with their out-of-school experiences and home cultures" (p. 424). A teacher's role in promoting the growth mindset can happen in numerous ways. One way to engage and promote growth through an understanding is to teach with the students' cultures in mind. Previous mindsets set by a student's specific culture can have the possibility to hinder growth for learning.

Another way that teachers can address mindsets is described by Priestley and Humes is that "any attempt to teach from a dominant cultural system will raise questions of alienation and relevance" (as cited by Pirre, 2003, p. 619). For example, a student who believes that a person from his or her culture can learn and that reading is an important and worthwhile pursuit, can use this attitude for learning of comprehension to occur. A teacher can use texts with a cultural tie to the student to show how a cultural character can be successful in learning, while helping the student to make a connection. "Efficiently designed integrated thematic units that address all subject areas collectively through reflective planning and cultural topic selections help students make pertinent connections with their out-of-school experiences and home cultures" (Kirk, 2001, p. 425).

Teachers should also take care to make sure they are not showing one culture as being superior to another. "As Priestley and Humes (2010) observe, 'any attempt to teach from a dominant cultural system will raise questions of alienation and relevance' " (Pirre, 2003, p. 425).

As Duckworth and colleagues state: "In unpublished cross-sectional studies of school-aged children, Duckworth and colleagues found positive associations between grit and growth mindset, leading the authors to speculate that growth mindset may contribute to propensity for goal commitment and sustained effort" (as cited by Myers, et al., 2016, p.1523).

Teachers can show students how to set goals and celebrate achievements. With practice, students learn how to set goals independently and self-reflect.

Focus from the development of a growth mindset (Myers et al., 2016) is beneficial to reading comprehension. “Both grit and growth mindset are related to staving off distractions, whether it be in pursuit of a goal or learning in general” (Myers et al., 2016, p. 1523). They must also learn how to learn in many cases since it is not necessarily an innate trait with a society that thrives on instant gratification such as with technology. “Learning to learn, on the other hand, is a process that is essentially ‘dialogical, inquiry-based and experiential’ ” (Pirre, 2003, p. 426). We live in an age of digital distractions, so perseverance in reading is a skill required for students’ full comprehension of a text. With this learning to learn, we continue on to the melding of Habits of Mind (Costa, 2011) , comprehension strategies (Myers et al., 2016), and connectivism (Bell 2011).

Habits of Mind and Comprehension Strategies

Successes and failures in early grades with reading can affect a student’s motivation and desire to read. Cunningham and Stanovich (1997) propose that “rapid acquisition of reading ability might help children to develop a lifetime habit of reading” (as cited by Taboada, Tonks, Wigfield, & Guthrie, 2008). The success of a student within the area of comprehension is a complex formation within the student of strategies that the student develops through instruction. “Successful reading comprehension is dependent on multiple elements, however, and gains in improving reading comprehension have been more consistent and significant when multiple strategies have been taught” (Mason, 2004, p. 289). By teaching students Habits of Mind

strategies in how to think, a teacher can give a student ways to navigate text so that comprehension is supported by their thinking.

Haris describes the importance of supporting students' thinking, especially those who struggle, by stating that "teaching students who struggle how to think is as important as teaching them what to think, including teaching such students to improve self-control and awareness of the learning process by developing skills in self-regulation" (as cited by Mason, 2004, p. 289). Each Habit of the Mind strategy can support comprehension of text in different ways, and teachers can foster these methods in a vast variety of means.These habits are: Persisting, Managing Impulsivity, Listening with Understanding and Empathy, Thinking Flexibly, Thinking about Thinking (Metacognition), Striving for Accuracy, Questioning and Posing Problems, Applying Past Knowledge to New Situations, Thinking and Communicating with Clarity and Precision, Gathering Data through All Senses, Creating, Imagining, Innovating, Responding with Wonderment and Awe, Taking Responsible Risks, Finding Humor, Thinking Interdependently, and Remaining Open to Continuous Learning.

Persisting. Motivation can be a top indicator of success in all learning. "Motivational variables such as self-efficacy and intrinsic motivation predict students' achievement in different areas such as reading ability, math, language arts, sports, and occupational choice" (Taboada et al., 2008, p.92). Internal motivation is important in fostering reading skills. Ryan and Deci (2000) conclude their feelings about internally motivated students, "individuals who are internally motivated show greater perseverance and sustained effort in their activities" (Taboada, et al., 2008, p.93). When students are motivated to read and persevere to the end of a text, comprehension scores increase. Taboada et al. (2009) found that internal motivation and

cognitive processes (e.g., background knowledge, self-generated questions) made significant independent contributions to variance in reading comprehension and in fact explained the equivalent of 3 months' growth in reading comprehension" (Becker, McElvany, & Kortenbruck, 2010, p. 775). According to the literature, intrinsic, or internal motivation, is more positively correlated with reading achievement than extrinsic or external motivation. "Extrinsically motivated children read because they, for example, want to please their parents" (Becker et al., 2010, p.775). Using Habits of Mind (Costa & Kallick, 2008) strategies can instill an intrinsic value in students through strategies learned like perseverance.

This internal motivation can look different within individual students. Within the area of comprehension, a student can use the self-regulation strategy of persistence in order to search for meaning within a text. In my experience at the second grade level, some students in my classroom tend to become frustrated and give up somewhat easily if the meaning is difficult to determine or if it is not explicitly stated in the text. Students can be taught explicit strategies to help them to pursue a task until it is finished, thereby resulting in a persistence. "They collect evidence to indicate their problem-solving strategy is working, and if one strategy doesn't work, they know how to back up and try another" (Costa & Kallick, 2008, p.110). According to Taboada, et al. (2009), "it is likely, that there are multiple motivational pathways for the energization of students' behaviors such that some students may be motivated by their self-efficacy beliefs, whereas others may activate cognitive processes through personal interests or contextual factors" (p. 101).

Managing Impulsivity. Reading for comprehension is a deliberate act. As students gradually are able to manage their impulsivity, they are able to manage their thinking skills to

better understand the text they are reading. “Reflective individuals consider alternatives and consequences of several possible directions before they take action. They decrease their need for trial and error by gathering information, taking time to reflect on an answer before giving it, making sure they understand directions, and listening to alternative points of view” (Costa & Kallick, 2008, p.119).

Reading deliberately for meaning means students need to attend to the words and word meanings, as well as the overall larger message within a text. “Students need to be able to analyze messages (what we would call “decoding”), and communicate messages (“encoding”)” (Fisher & Frey, 2014, p.80). Difficulty in attending to the text decreases the meaning for the students, and in turn the student will lose motivation as the text is not making sense to them. This may happen when the student is reading a text that is not enjoyable and reading without intrinsic motivation. Wang & Guthrie (2004) put it this way, “the negative relationship between extrinsic reading motivation and reading literacy may also be explained by an inadequate focus on the text, resulting from ineffective strategies and inaccurate inferences” (Becker, McElvany, & Kortenbruck, 2010, p. 780). To understand the meaning, students need to question themselves as they go, take time to process the information as they go, and repeat. “Among the factors that can explain the relationship between questioning and reading comprehension, three have been discussed in previous literature: (a) active text processing, (b) knowledge use, and (c) attentional focus” (Taboada & Guthrie, 2006, p.18). Effective self-questioning is a key strategy within a strong comprehension student’s repertoire.

Questioning and Posing Problems. Students need to question themselves as they read, as well as responding to teacher directed questioning. Students at the second grade level, in my

experience, can occasionally get caught up in what the teacher is asking or going to ask rather than posing questions themselves as they read. “Student questioning, defined as self-generated requests for information within a topic or domain, relies on assessing what is known and what is unknown about a topic and attempting to expand existing knowledge of the topic”(Taboada & Guthrie, 2006, p.20). Questioning from the teacher can be effective, and should be used. However, the questioning should happen throughout the student’s reading, not just at the end. Reading the text and answering the questions given afterward will not give the same comprehension results as questioning throughout, whether it is being used by the teacher or by the student individually. “Using questioning skills as a pre, during, and post reading strategy is effective to increase comprehension of expository text” (Fisher & Frey, 2014,p.79). Higher level thinking questions yield higher results in comprehension, so teachers need give student questioning prompts that use critical thinking skills.

According to McKensie (1997), teachers can ask:

> Seventeen different types of questions in their classrooms, ranging from essential questions which comprise the center hub from which other questions emerge and which probe deep issues; to subsidiary and probing questions which force students to think below the surface; to clarification questions which prompt students to restate or elaborate; to strategic questions which foster metacognition (Fair, 2011, p. 68).

This combination of higher level questions posed from both students and teachers is crucial in comprehension effectiveness.

Taking Responsible Risks. Once students have become aware of managing their impulsivity and forming effective questioning, a skill to expand upon the meaning could mean

taking responsible risks. “The sole purpose of scaffolding is to progressively release control to the students. In this way, teachers do not exert complete control over the learning; they are collaborators, facilitators, mentors” (Fair, 2011, p. 69). One way in my classroom to encourage students to take responsible risks is through responding to the literature in a journal. The students are free to express their meaning in a format where they can receive feedback on the risks of meaning they encountered. It can be freeing for the student to know that taking academic responsible risks in understanding can occasionally lead to excellent creative ideas.

An excellent example is given by Kamberelis William, Kamberelis, Welker, Kelly, & Swafford, (2017):

> For example, having one student express her/his frustration with a character only to have another student, who connected with this same character’s experience, offer an opposing perspective might create tensions or discomforts not usually encouraged in the classroom… In the example just mentioned, each student can question his or her own reality against that of another's that is quite different, perhaps causing them to identify and surrender assumptions and entitlements in order to include the thoughts, feelings, and needs of their peers (p.68) .

Listening with Understanding and Empathy. Teaching a student to be empathetic is as much social skill learning as it can be a skill for comprehension as well. As noble as teaching empathy can be for educating the whole child, it also is a skill that will transfer to the cognitive ability of the student. “As it pertains specifically to language arts and literature curricula, instructional approaches that encourage an exclusive focus on critical theoretical practices without a complementary focus on empathetic understanding and tangible social action or

advocacy seems to us to constitute a serious failure of literature education and humanities education more broadly conceived" (William, Kamberelis, Welker, Kelly, & Swafford, 2017 p. 69). By providing questioning prompts throughout the reading, teachers can give students opportunities to connect with the characters in their books. High-level questioning geared towards each student's social ability can take comprehension to the next level. Questioning prompts can help the student to use dig deeper for meaning (Fair, 2011). By the teacher using these questioning prompts the students can view the world from a different perspective than the world in their original thinking.

Reading is a way to immerse the child in a different world than reality is presenting. "Texts offer alternative ways of seeing our worlds, exploring the lives of others, and glimpsing our own potentials for being, and they do so in complex ways" (William et al., 2017, p. 70). As some students' home lives may not be welcoming, the world of a book can be an inviting escape for children. Making connections to a character can boost a student's confidence and show them another side of themselves. "Literature's invitation to enlist our "emotional side" as well as our "thinking mind" requires that we imagine the English classroom as a place where students might be encouraged to read and respond with both their hearts and minds" (William, et al., 2017 p. 69). The ramifications of teaching empathy in a classroom is significant.

According to Williams, et al.,:

> Teachers (as knowledge workers) have a responsibility to provide students with opportunities and tools for seeing beyond what is culturally canonical or officially expected. This mode of teaching connects the purposes of critical reading with the

purposes of personal and emotional reading (as cited by William, Kamberelis, Welker, Kelly, & Swafford p.69).

Reading for emotional and empathy purposes can provide ways for the reader to understand themselves. Making that connection with a character can bring out qualities the reader was unaware that he or she had.

> According to Coles (1998), literary narratives can provide opportunities for moral analysis because they present readers with occasions to imaginatively and critically encounter the lives of characters, offering openings for self-scrutiny about how we view others and ourselves. When this occurs, the hopes, fears, discomforts, struggles, and joys of these characters have the potential to help us move from self to the other (as cited by William, Kamberelis, Welker, Kelly, & Swafford (2017) (p. 71).

The emotional aspect in reading comprehension is what makes the student develop their critical thinking skills, and the connections to the text can foster a love of reading. With this Habit of Mind, the students are able to "see through the diverse perspectives of others. They gently attend to another person, demonstrating their understanding of and empathy for an idea or a feeling by paraphrasing it accurately, building upon it, clarifying it, or giving an example of it" (Costa & Kallick, 2008, p. 81).

Thinking and Communicating with Clarity and Precision. Errors in comprehension are harmful for students in constructing meaning. If the text does not make sense to the reader due to an error, the student needs to go back and see where his or her error lies. When responding to literature, a student needs to be clear in expressing his or her ideas. Students need to have practice in showing clarity in their writing and teachers can one on one to inform them of

errors in their writing. “The error detection task represents a compromise between the highly supportive process-writing classroom, and the more demanding formal assessment situation” (Beal, 1996, p.222).

Creating, Imagining, Innovating. Students need to form stories or pictures to help them to understand as they are reading. “The pictures that form in your mind as you read can bring a story to life or help make sense of complex subject matter” (Wilson, 2012, p.192). Creating images while the student is reading is an essential comprehension skill. “In several published classroom studies (Sadoski, 1998; Sadoski & Wilson, 2006), students who were taught to employ mental imagery while reading outperformed control groups in comprehension and recall” (Wilson, 2012, p.191).

Strategies such as using visuals to pair with text or having the student create a drawing from the text can enhance their understanding. “The National Reading Panel's Teaching Children to Read report (National Institute of Child Health and Human Development, 2000) recommends explicit instruction in creating mental imagery and coding what they imagine with a keyword cue as an effective way to improve retention” (Wilson, 2012 p. 190). Theory in the literature also suggests that the meaning is made clearer with imagination and creating images.“Building on dual coding theory, researchers have shown that visualizing what you read makes the text more meaningful and memorable” (Wilson, 2012 p. 189). Students can be taught explicit strategies for creating images, for example, they can picture the story as a movie playing in their mind.

Students should be taught to read the words and the pictures. As Reed (2006) and Sadoski (2005) describe, “The mind can process concrete more easily than abstract ones, because mental activity occurs in both the visual and visual-spatial representational systems (as cited by Wilson,

2012, p. 189). This reading of pictures and images is visual literacy. Taking meaning from pictures, or other graphic images like charts or maps, will solidify the understanding students get from reading the print. "Visual literacy is the complex act of making meaning from still and moving images" (Fisher & Frey, 2014, p.81). This is becoming increasingly important as students are presented with digital imagery. "Perhaps without realizing it, our students are surrounded by tools that require visual literacy" (Fisher & Frey, 2014, p.81). Imagination and creativity are skills that are catalysts to higher leveling thinking. Students can be encouraged to use creative skills by being given choice in their reading and writing. According to Guthrie, et al. (2007), "perceived control over reading refers to students' choices and perceptions of their own control over their reading-related activities (as cited by Becker, McElvany, & Kortenbruck, 2010 p. 780). Student choice and interest also ups engagement by the student, which in turn ups overall comprehension. "Student interest has been shown to correlate with cognitive processes such as deeper text processing of text learning when other factors such as text length, text genre, background knowledge, and text difficulty were statistically controlled" (Taboada, et al., 2008, p.89).

Thinking Flexibly. Students using critical thinking skills can increase comprehension by using their minds in different ways. To use their minds in ways they previously have not considered, students need to be encouraged to think creatively and without constraints. "Critical comprehension requires students to infer bias, motives, or agendas; to consider the authority and perspective of stakeholders (and authors); and to engage in scholarly inquiry" (Fair, 2011, p.72). As the students consider new ideas and ways of thinking, their comprehension can be transformed and the students acquire a new level to the previous comprehension. "As teachers

and readers of literature, we are constantly provided with circumstances or events that ask us to negotiate between what was initially expected and what eventually transpired" (William, et al., 2017, p.69).

Striving for Accuracy. A core component in Jan Richardson's guided reading is responding to literature that the student has read through guided writing (Richardson, 2016). Guided reading is an instructional approach that involves a teacher working with a small group of students who demonstrate similar reading behaviors and can all read similar levels of texts. (Richardson 2016). I have used the Jan Richardson's guided reading framework in my classroom for the last three years (2015-2018). As the students are writing in a small group, the teacher guides the student through the writing process helping them to be accurate in their writing. "There is considerable evidence that young writers have particular difficulty with revision, unless presented with a highly supportive classroom" (Beal, 1996, p. 225). Students can be taught as they are reading to continually monitor if their thinking is making sense and is correct.

Thinking about Thinking (Metacognition). Understanding thinking processes for a second grader is a very abstract process. I have found in my classroom that students need very explicit teaching in analyzing their thinking. "Weaknesses in reading comprehension are often attributed to students' lack of both the metacognitive skills to monitor reading comprehension and the fix-up strategies to repair understanding when it breaks down (A. L. Brown, 1978; Torgesen, 1977). (Mason, 2004, p.294)." When students are reading for comprehension, they need to continually monitor and scrutinize their thinking. "The point is that not all questions in a classroom should focus on measuring students' prior knowledge or comprehension of a topic. Rather, questions should help students think about what they think, explore multiple

perspectives, and challenge students to think beyond and around the current issue" (Fair, 2011, p.71). When responding to the literature students must analyze their thinking in order to make sense of how they understand the literature. "In order to revise, writers must review what they have written and see it with fresh eyes, through the reader's perspective. This requires the understanding that a text is a representation of meaning, rather than the meaning itself" (Beal, 1996, p.232).

Applying Past Knowledge to New Situations. Comprehension is an active process. Students need to think about what they have encountered in the world prior to reading the new material.

This is how Beal (1996) describes the process:

> In order for a text to be understood, readers must do more than merely decode the words: They must integrate the words with relevant prior knowledge, and they must also make inferences that are prompted by the text, in order to arrive at a fuller meaning that is not necessarily stated explicitly" (Beal 1996 p. 230).

The students' prior experiences comprise their knowledge base for the comprehension of text. This combined with new information presented by the teacher or acquired from the text guide the student through their understanding. "The reader needs to combine textual information with his/her generic units of world knowledge (e.g., schemas) and other sources of knowledge, such as personal knowledge and experiences, knowledge about language, and knowledge about the specific communicative situation" (Brandão & Oakhill, 2005, p. 701).

At the primary and intermediate levels students lay the foundation for how they will approach a text. Using prior knowledge or having the teacher lead them in accessing prior

knowledge can set them up to understand how important making the connections can be to interpreting the text. As specified by McNamara & Kintsch (1996), some studies have indicated that a failure of integration between "the reader's prior knowledge and the information from the text may be at least one of the causes of difficulty in inference making among poor and young readers (e.g., Lipson, 1982; McCormick, 1992)" (as cited by Brandão & Oakhill, 2005, p. 703).

Students at the beginning stages of reading are learning how to use the information presented to them to make sense of both the text and how it relates to their knowledge.

Taboada & Guthrie suggest this idea:

> The roles of questioning and prior knowledge in reading comprehension is based on Kintsch's (1998) theory of the constructive-integration process. In that view, prior knowledge is used by the reader in conjunction with the text base to construct a "situation model" that fuses the two. The situation model is new knowledge gained from text. The more prior knowledge possessed by the reader, the fuller the situation model can be constructed (p. 11).

Gathering Data through All Senses. Understanding language nuances and connotations involve thinking about language through the five senses. "Indeed, opportunities to read, write, tell, and listen to stories take students out of the classroom and into places where they can engage in dialogues with others about issues and experiences that matter to them—personally, socially, culturally, morally, and politically" (William, et al., 2017 p. 71). By thinking about what the language means to them, the students enrich the definitions of words to create a larger idea. As stated by Santoro, et al (2008) "In this information age, it is critically important that expository text gain prominence in the curriculum (as cited by Antonacci & O'Callaghan, 2012, p. 165).

Responding with Wonderment and Awe. In the primary grades, many students possess their avid curiosity and desire for learning and understanding the world around them. Webster proposes: "Elementary school students are naturally curious about their world and how objects work. This strategy builds on their sense of wonder to facilitate comprehension of informational text (as cited by William, et al., 2017, p. 70). Awaking the interest levels in student through reading can foster their curiosity and wonderment. "Research has established that specific dimensions of reading motivation (such as involvement and curiosity) and reading comprehension are correlated (Baker & Wigfield, 1999; Wang & Guthrie, 2004) (as cited by William, et al., 2017, p.72).

Finding Humor. Humor is inferential in nature. "Comic books and graphic novels use a sequential narrative form and draw on yet another set of skills to fill in the unseen action. This is represented through the negative space, called the "gutter". Readers of sequential narratives, must draw on inferential knowledge to supply the missing information" (Fisher & Frey, 2014, p.81). Students can be shown to look in text for humor that is not obvious as a way to develop inference skills in their reading."Every day we live with both laughter and tears, experiencing moments of happiness, hope, and sadness" (Fuhlur, Farris, & Walther, 2012, p.15). Students can learn to use language in the world around them to pick up on humor, to in turn practice their inferences skills daily.

Including humorous works are popular among students along with other types of texts. "A smooth transition can be made from poetry to picture books, where the storyline and captivating illustrations work together to generate laughter" (Fuhlur, Farris, & Walther, 2012, p. 17). Analyzing the text for humor allows students study words for example, to classify or make

assimilations. “Other popular books fall under the rubric of humorous word play” (Fuhlur, Farris, & Walther, 2012, p. 13). As Fuhlur, Farris, & Walther (2012) state:

> “Students who have been exposed to humorous and hopeful books, and who have been given the tools to put their thoughts into written words, will share with others the positive message that everyone can find humor and hope in everyday life. Equally important is the fact that as these young readers revel in humorous and hopeful books, they will be on their way to becoming lifelong readers” (p.14).

Remaining Open to Continuous Learning. As stated earlier in this chapter, motivation plays a crucial role in affecting comprehension. The readers “who are able to learn and apply individual strategies move from mere strategy application to comprehension routines. The conscious efforts that initially drive application of chosen strategies become subconscious patterns of cognitive behavior that affect future readings and future learning” (Brandão & Oakhill, 2005, p.692). Fostering a student’s motivation for learning and understanding can help them to make gains quicker in the area of comprehension. ”An active learner has been described as inquisitive and curious—someone who asks a substantial number of questions (Graesser, McMahen, & Johnson, 1994).” (Taboada & Guthrie, 2006, p.32).

Thinking Interdependently. A self-regulation strategy that is needed by second graders to understand and process text is to think of more than one idea at a time. Some students can have major difficulties in this area. It is explained by Bandao & Oakhill (2005):

> This difficulty was the result of two problems: (a) too much reliance on prior knowledge, and a concomitant disregard or reinterpretation of the text information to

conform to prior knowledge, or (b) in contrast, heavy reliance on text information with no attempt to infer and go beyond the words used in the text (p. 690).

Students should practice gathering and sorting information from different sources to concise it into a coherent idea. "To stimulate thinking, students should wrestle with important questions....To answer such questions, students should sift, sort, and consider a wealth of data from multiple sources and perspectives" (Fair, 2011, p.89).

The Habits of Mind (Costa and Kallick, 2008) incorporate active learning strategies that can be used in a digital format. For example, communicating with precision and clarity must be used in an activity like a blog, or the reader would not be able to understand the student's point. Teaching students to use these strategies are helpful not only to aid comprehension, but is also useful for teaching lifelong digital citizenship.With this idea in mind, exploration of Connectivism with comprehension strategies is my suggestion.

Connectivism

With an increase in students reading in a digital format, strategies within comprehension and ways students access this information is different than in the past. A theory based on this digital learning is called Connectivism (Bell 2011). "The theory, advanced by George Siemens in 2005, argues that traditional learning theories are no longer relevant in a digital age where information and knowledge are constantly in flux" (as cited by Brooks, 2015, p. 29). To support in bridging this gap, using Habits of Mind strategies applied to digital text can be helpful for developing students' critical thinking skills as well as technological skills. "The increasing scope of change and shifting contexts for learning and education are sound reasons for re-examining theories we use to support the design of learning activities and technologies" (Bell, 2011, p.102).

In Connectivism, as proposed by Bell (2011), students can use technology to enhance learning in ways previous to the digital age that were not possible. According to Bell (2011):

> Connectivism is "a network theory of learning that draws on a diverse set of theories from learning, education, philosophy of knowledge, and knowledge management, situated within a discourse of change in education and related to the transformative possibilities offered by emerging technologies" (p.104).

Using technology can be an interactive way to learn. Digital texts or electronic books (e-books) are a format that students can interact with while they comprehend. "E-books provide an opportunity for teachers and children to connect and share knowledge, build relationships through literacy developing activities, and enhance stimulation in literacy enriched environments (Wright, 2013 p. 372). Digital text was once theorized to be more difficult for students to use, but is now being supported in the literature as an enhancement to comprehension. As mentioned by Wright (2013):

> "There are some concerns regarding the use of digital text, such as decreased reading speed, inability to accurately scan or notice details when screen reading, and distractibility from other available activities; however the benefit of readily available reading resources outweighs these concerns. Moreover, numerous studies illustrate the benefits of e-book reading as an effective means to improving the literacy skills of children, especially reading comprehension (Korat, 2009; de Jong & Bus, 2002; Grimshaw et al., 2007)" (p. 372).

The e-books allow students to interact in ways that a traditional text are not able to and this can teach specific skills related to comprehension, such as listening skills. According to

Wright (2013), results of a one-way analysis of variance (ANOVA) demonstrated that comprehension skills are significantly higher for electronic book (e-book) readers when the reader utilizes the available e-book resources, such as oral-narration. Digital text reading is not more detrimental than print text reading as far as the effect on comprehension "results support that students' comprehension of text is unchanged when reading digital text compared to print. Although the time needed to complete the reading of digital text increased compared to print, students indicated a higher level of enjoyment while reading in this format" (Wright, 2013, p.381).

Another positive benefit to including technology based activities for instruction is the increase in enthusiasm from students. With motivation as a large factor in increasing reading comprehension, it is essential to use technology in ways to promote engagement of students with the text. "The positive feelings associated with interacting with digital text may have increased the overall motivation to engage in the required readings" (Wright, 2013, p.389). Students feel in control of their learning and creativity can be encourage through the use of technology. "In addition to expanding students' learning networks, a connectivist approach to instruction should emphasize the student as a creator of information" (Brooks, 2015, p.33). Expanding the sense of community through technology can allow students to understand empathy and understanding for others outside of their classroom. This can transfer to text through understanding of character's feelings as well. "Evaluating information and the ability to access and recognize diverse perspectives is a key component of connectivism (Siemens 2005)" (Brooks, 2015, p.32).

Various tools for enriching comprehension learning through technology exist. "Such technologies include PowerPoint presentations, online communication systems, online research,

electronic discussion boards, and multimedia teaching techniques within the classroom (Kinzer, 2003).” (Wright, 2013, p.392). Students have been accustomed to using technology in their world at home and in school. Digital cooperation is a way that students are responding to learning new information. “Information access has become increasingly mobile in the last decade with smartphones and tablets providing immediate and simultaneous connections to news, social media, and other information tools” (Brooks, 2015, p.382). Using apps or websites where a student is not only interacting to the text, but possibly to other’s writing or comments enhance the comprehension of the text as well. “The principles of Connectivism…emphasize the distribution of learning across networks of people and things and the capacity of learners to be active” (Bell, 2011, p.104). The new shift of learning through online collaboration opens the doors for learning that was not previous practice in classrooms of the past. “Connectivism, a learning theory that has gained attention as it acknowledges the impact of the digital age, suggests that learning occurs within a shifting personal network of information sources and emphasizes the learner’s ability to make connections between those sources (Siemens, 2005)” (Brooks, 2015, p.31).

Teachers are increasingly mandated to use various forms of technology for learning and this is a researched based practice. The transition from traditional instruction without technology to technology rich instruction can be difficult for some teachers without training, so consulting resources for using technology is vital. “Teachers are increasingly encouraged to use various forms of technology within the classroom which the newly revised NETS [National Educational Technology Standards] for teachers provide a framework for transitioning schools from industrial to digital places of learning.” (Wright, 2013, p.371).

However, some caution is needed in introducing students to new form of technology. Problems can arise ranging from not using the technology effectively to online safety compromises. “Technology brings golden opportunities but can leave a trail of disappointment; good research and evaluation can contribute to a world in which we learn from our mistakes and maximize our future opportunities” (Bell, 2011, p.110). When using new technology to aid in promoting comprehension and Habits of Mind (Costa and Kallick, 2008), teachers can continually reevaluate effectiveness, updating as the technology changes, and enhancing activities as more new resources are created. “As with any instructional technology, a teacher needs to consider why he or she is using the tool in class and how it contributes to learning outcomes” (Brooks, 2015, p.31).

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Summary

Through my literature review I have discovered the Habits of Mind (Costa and Kallick, 2008) and growth mindsets (Myers, et al. 2016) provide excellent ways to increase comprehension in second grade students. The literature is clear in listing ways that these critical thinking skills are imperative to comprehension skills. The literature on comprehension shows how critical development of these skills are to developing a student’s reading skills.

Through the use of connectivism (Bell, 2011) and digital activities I will create my matrix consisting of lessons that are matched to common core language arts standards (National Governors Association Center for Best Practices, & Council of Chief State School Officers, 2010). The result will be a tool that teachers can use to increase comprehension by second grade students when reading. I will explore my research question, what are ways to communicate to

other teachers the connections between the 16 Habits of Mind and second grade common core language arts standards, through this matrix including the elements from growth mindsets, Habits of Mind (Costa and Kallick, 2008) and connectivism (Bell, 2011) that I have learned through my literature review.

Chapter Three

Project Description

Introduction

Using the framework of growth mindset (Myers, Wang, Black, Bugescu, & Hoeft, 2016) as a background, I aimed for a way to get my students to use these mindsets to develop critical thinking skills in comprehension. I also sought after a way to incorporate each of the strategies of Habits of Mind as proposed by Arthur Costa into a supplemental curriculum. Pairing it with learning activities that are meaningful and linked to comprehension seemed like a natural progression. Forming assessments to monitor how the acquisition of skills is developing as a goal, I decided a matrix would be the best way to achieve my goals for this project. In addition, after my review of the literature related to connectivism (Bell 2011) and the importance of digital text, I infused lessons using technology to help develop these skills in the students.

In chapter two, my literature review reviewed the topics of growth mindset (Myers et al., 2016), Habits of Mind (Costa & Kallick, 2008), comprehension, and connectivism (Bell, 2011). Combining all of these elements into a usable resource for teachers was my main goal in exploring my research question: *What are ways to communicate to other teachers the connections between the 16 Habits of Mind and second grade common core language arts standards?* My knowledge gained through the literature guided my exploration into my project,

which consists of a matrix and curriculum guide for each of the 16 Habits of Mind (Costa & Kallick, 2008).

In this chapter I will describe my formation of a matrix and curriculum guide. The rationale for my project is provided as well as the specific description. With links to key research in comprehension to the different parts of my matrix, the matrix is meant to be used by classroom teachers when teaching language arts. This matrix encompasses growth mindset skills, habits of the mind strategies, and comprehension strategies. The curriculum guide provides activities to accomplish these skills and strategies and assessments for monitoring the mastery of skills and strategies. The assessments served as my guide for developing my goals, key understandings, student knowledge outcomes, and skills acquired.

Rationale

A window of opportunity to develop reading skills in a child exists. "Rapid acquisition of reading ability might help children to develop a lifetime habit of reading"(Becker, McElvany, & Kortenbruck, 2010, p.779). Since comprehension is needed in all content areas for learning to occur, focusing on comprehension was a natural choice for me. I wanted a way to improve my students' higher thinking skills, but it needed to be adaptable to students of all ability levels since I have had classes with a wide variety of abilities.

The Habits of Mind (Costa & Kallick, 2008) were the most adaptable choice for the varying ability levels of students. These habits are a way of expanding thinking, and also connect to comprehension strategies needed to be mastered by students in reading. I wanted this to also be relevant to today's teaching with respect to digital text, thus my connection to connectivism with supporting literature from Bell (2011).

I decided to approach the learning activities with technology in mind, due to skills needed by second graders relating to digital text. “The Common Core State Standards recognize the growing importance of visual literacy” (Fisher & Frey, 2014, p. 78). Chapter Four will explore the specific matrix developed for using comprehension strategies with Habits of Mind strategies (Costa & Kallick, 2008). The matrix includes growth mindsets (Myers et al., 2016), Habits of Mind (Costa & Kallick, 2008), Minnesota State Standards, and the corresponding comprehension strategies to teach with each strategy. The matrix is meant to be a guide for elementary teachers teaching comprehension strategies and a way to organize and integrate Habits of Mind (Costa & Kallick, 2008) into language arts instruction.

The underlying framework of Understanding by Design was used (Wiggins & McTighe, 2011) to develop the curriculum, and specifics in how to achieve desired results using assessments are discussed.

Audience

The intended audience is elementary teachers who teach English language arts using common core standards. The students are students with varying comprehension abilities, with a larger than average number of students qualifying for special education services. Among the students, some may fall in the gifted range, but are not identified or serviced outside the regular classroom setting. Habits of Mind (Costa & Kallick, 2008) can further critical thinking for gifted students, but can be adaptable to students of all achievement levels.

The setting would be a school in a rural elementary with smaller class sizes. The staff would include regular classroom teachers along with special education staff and specialists. The focus for the Habits of Mind (Costa & Kallick, 2008) would be during the English Language

Arts block, but specialists could incorporate elements during their specialist times. The community is small and has a higher special needs population than average and a high poverty rate.

Timeline

The curriculum is meant to take place over the course of several months during the reading instruction. This time would be devoted to mastering the growth mindset strategies and incorporating the learning activities specific to each habit and comprehension strategy. Each Habit of Mind (Costa & Kallick, 2008) is to be given instruction during the time the corresponding comprehension is planned to be taught. Pretests were developed for teachers to give to assess the level of needs of students in these comprehension areas and these will give an indication as to where the students are currently performing in both the comprehension strategy and the development of the Habit of Mind (Costa & Kallick, 2008). The time to teach each of the Habits of Mind strategies (Costa & Kallick, 2008) is incorporated into the unit of its comprehension strategy pair as a supplement to existing curriculums being used by the teacher. Once the strategies are taught and mastered, they can be referred to and should be reviewed periodically throughout the year as needed. The target is second grade classrooms, but the elements could be continued on into the upper elementary grades.

Curriculum Framework

I used the Understanding by Design (UbD) framework (Wiggins & McTighe, 2011) to create my project. This framework utilizes a backward design format. It emphasizes looking at where the teacher wants the student to be, in order to facilitate learning activities that will get the student there. “The destination must be framed in terms of changes in the student— the learnings

sought (i.e., the student output)— not in terms of the content and your actions (i.e., the teacher inputs)"(McTighe & Wiggins, 2011, p.130). Assessment pieces are the starting point, as these gave me a clear understanding of where I wanted my students' learning to ultimately be. Understanding by Design (Wiggins & McTighe, 2011) emphasizes the relationship between assessments to monitor learning and the teaching process. Two key questions from Understanding by Design (Wiggins & McTighe, 2011) that I kept in mind as I developed the matrix are: "If that's the knowledge, what do you want students to understand about it? If that's the skill, what understanding(s) will enable students to more wisely apply it?" (Wiggins & McTighe, 2011, p.133). I referred often to these questions as I went through the developmental phase of the supplemental curriculum I created based on each of the 16 Habits of Mind (Costa & Kallick, 2008).

Once I "have determined the goals (Stage 1) and the evidence you will need to collect (Stage 2)" I needed to decide "what kinds of learning activities are most appropriate" (McTighe & Wiggins, 2011, p.129) based on suggestions from McTighe and Wiggins. This process facilitated my determination in identifying what activities can help to foster critical thinking in comprehension, which was my main goal. I needed to develop rigorous assessments that gave valid data and guided instruction for elementary teachers to use. The goals had to match my assessment pieces as well.

Critical thinking was the main goal in this project. "Many teachers fail to see that they aren't actively developing students' critical thinking; they merely hope it will occur. Worse, when lessons only emphasize recall, students do not need critical thinking for academic success; it falls through the cracks of conventional instruction and assessment" (McTighe & Wiggins

2011, p.132). Critical thinking is the main goal in both growth mindsets (Myers et al., 2016) and Habits of Mind (Costa & Kallick, 2008). This underlying critical thinking should be assessed extensively, not superficially. The activities I designed are meant to foster this critical thinking and expose the students to new innovative ways of thinking that they can continue to use throughout their acquisition of comprehension strategies.

I decided the learning goals that I want to accomplish, then I developed essential questions for each Habit of Mind (Costa & Kallick, 2008) and comprehension strategy. This helped in determining where the instruction needed to go and how it should be assessed. "UbD distinguishes among four learning goals in unit design: transfer, meaning, knowledge, and skill" (McTighe & Wiggins 2011, p. 134). It was imperative that I kept my goals in mind when I created these. The essential questions were not superficial, but encouraged higher level thinking using questioning words like "why" and "how".

Project Evaluation

I presented my project through a Prezi that gave rationale and information from the literature, as well as the matrix itself. I shared my work with colleagues who could benefit from using this information. In addition this would benefit elementary teachers, possibly in grades one through three, reading interventionists, and specialists. I gave brief information presented on Habits of Mind (Costa & Kallick, 2008) and comprehension; then the matrix was presented. I will created curriculum guide with sample lessons to go along with each Habit of the Mind (Costa & Kallick, 2008) and comprehension strategy. My aim was to use technology in the activities to support my rationale of connectivism (Bell, 2011) and to promote digital literacy.

Instruction on how to use both the matrix and the curriculum guide was given and supplemental handout and worksheets were attached.

Conclusion

Using the Understanding by Design framework (McTighe & Wiggins, 2011), I aimed to create a matrix that is useful for teachers teaching language arts. According to the literature, acquisition of comprehension skills is a key factor in developing a love of reading. Through use of my matrix, teachers teaching language arts will have a toolbox for increasing comprehension skills through habits of the mind strategies. In Chapter Four, I review my findings in the literature review and discuss what contributed most in my project. I discuss my process of creating the matrix, curriculum guide, and my reflections on the project. I link my key understandings and give insights into the applicability of my project over time.

Chapter Four

Project Conclusions

Introduction

The goal of my research project was to answer the question: *What are ways to communicate to other teachers the connections between the 16 Habits of Mind and second grade common core language arts standards?* In my exposure to the Habits of Mind (Costa & Kallick, 2008), I had noticed that in addition to helping gifted students to expand their critical thinking skills, it also provides an opportunity for those students at grade level or the intervention levels to move their thinking up a level in learning taxonomies. I also noticed the strong connections

between the Habits of Mind (Costa & Kallick, 2008) and comprehension strategies that I have taught to second graders. In my discovery, I also made a connection of these concepts with growth mindset concepts (Myers, Wang, Black, Bugescu, & Hoeft, 2016), that I was working to instill in my second graders as well. My idea for the matrix came out of wanting a way to organize the Habits of Mind (Costa & Kallick, 2008), comprehension strategies and state standards to match, and growth mindset concepts in a way that could be incorporated into an existing language arts curriculum. Based on the research I did in my Chapter Two Literature Review, I have not only created the matrix, but I also created a curriculum guide with lessons to cover each Habit of the Mind (Costa & Kallick, 2008).

In this chapter, I will reflect on my project and the steps that I have progressed through to completion. I plan to first address opportunities for growth from my learning. I will describe how I evolved and changed the project as I decided what was pertinent and important. Next, I will look at how my literature shaped my project's objectives and intentions. My focus was to use the scholarly research information to guide my project's aims. Then, I want to convey the usefulness and implications my project can have for teachers in the field. Lastly, I will explore what the project has inspired in me for future applicabilities and purposes.

Instrumental Takeaways

When initially deciding to focus on comprehension, I knew that the vast research would be tedious and possibly overwhelming to go through. When I linked the Habits of Mind (Costa & Kallick, 2008) with specific comprehension strategies along with an elementary focus, I could narrow down a more manageable amount of information. Concentrating on specific state standards also helped to give me direction within my research.

I found that since comprehension has always been a strength for me, investigating into how to increase comprehension in students was an advantageous move for my professional development. I found that comprehension is not an intuitive process for all and may need to be explicitly taught. I was surprised in learning about teaching comprehension, I discovered that my ideas about teaching it needed to emerge and change. Using specific strategies would be more effective that general strategies according to the literature.

I also concluded that using Habits of Mind (Costa & Kallick, 2008) followed the ebb and flow of continuously using and reviewing comprehension strategies. What this means is that comprehension strategies cannot just be taught in isolation, but must be continued to be reviewed as they work as a whole to increase reading skills. Likewise Habits of Mind (Costa & Kallick, 2008) and growth mindset concepts (Myers et al, 2016), should be continually integrated and used as a whole.

Project Evolution

I knew when beginning the project, developing the matrix would help to organize my information. I went through many formats before deciding on the final one that was an easily readable resource for teachers. Matching up to a standard was crucial as that would help me to form my curriculum. After the matrix was created, I started on my curriculum development using the Understanding by Design framework by McTighe & Wiggins. I formed my assessments to give me guidance as to what I wanted the students to learn. From there I decided on the key understandings and lessons to go along with each Habit of Mind (Costa & Kallick, 2008). It was during this whole process that I came to the realization that many of the

comprehension strategies and standards would overlap, and this was because of the nature of comprehension as a whole.

Literature Guidance

During my literature review I learned many points of information that guided my project completion. The main areas that I focused on in my literature review were growth mindsets (Myers et al., 2016), Habits of Mind (Costa & Kallick, 2008), comprehension strategies, and connectivism (Bell, 2011).

The literature about growth mindsets (Myers et al., 2016), states that students with a growth mindset are can be motivated without a tangible reward. The belief in learning for learning's sake is intuitive. I used the growth mindsets as a starting point before including the Habits of Mind (Costa & Kallick, 2008) with the comprehension strategies. With this background, I wanted the students to build their thinking skills with the correct mindset as a base.

Each Habit of Mind was covered in the curriculum guide matched to comprehension strategies. What I learned in through my literature review of Habits of Mind (Costa & Kallick, 2008) was that these strategies are meant to increase critical thinking skills. The students would be going up a level in learning and my aim was to have them go up a level in comprehension by focusing on these habits as well. Arthur Costa, the creator of Habits of Mind, was an obvious choice for understanding these strategies and I focused a lot of my study using the books *Habits of Mind Across the Curriculum* by Costa and Kallick and *Learning and Leading with Habits of Mind:16 essential Characteristics of Success* also by Costa and Kallick . This resource showed

examples of how actual teachers have integrated the habits, and it emphasizes that they are not an add on for the curriculum, but a way of students to deal with challenges.

The literature on connectivism stressed the importance of students learning in ways digitally than they have previously in history. Since using technology and digital reading is such an important skill for students, I designed most of the curriculum including these elements for students to practice working with digital text. Teachers can use these suggestions to incorporate digital skill into their language arts for their students.

Project

Teacher Applicability. My intention with the matrix and curriculum guide was to provide a resource for elementary teachers that they could use in addition to their existing language arts curriculum. The Habits of Mind (Costa & Kallick, 2008) can be taught during the time of the corresponding comprehension strategy and then reviewed periodically in the same manner as the comprehension strategies can be revisited. I designed the project for second graders with Minnesota State Language Arts Standards, but the Habits of Mind (Costa & Kallick, 2008) and matching comprehension strategies can be used by teachers of other elementary grades. Many of the lessons could be adapted with a change of rigor or content also. This project beneficial the teaching community because the habits, mindsets, strategies, and standards are now all linked and sample lessons can be a stepping stone for a teacher wanting to incorporate all of these ideas and strategies into his or her curriculum.

Limitations of the Project. Limitations in this project would include any changes in state standards and not as much applicability to Pre-K and upper elementary grades. I chose the Minnesota State Standards for Language Arts because this is the state I am currently teaching in.

Minnesota has adopted the Common Core Standards and strands for Language Arts, so in many states this matrix and curriculum guide would be applicable. However, not all states have adopted these standards, so the project would not be as helpful for teachers in these states. In addition, standards are revised periodically so the lasting use of the project could change based on this fact.

Future Indications. Since the project was successfully designed with sample lessons for each of the Habits of Mind (Costa & Kallick, 2008), I would like to continue on the journey of designing lessons that fit in well with this curriculum. The creation of these lessons has shown me that the Habits of Mind (Costa & Kallick, 2008) can be used as underlying thinking skills across content areas. Starting with comprehension as a basis for including Habits of Mind (Costa & Kallick, 2008) was an effective choice that I would like to continue into math, science, and social studies curriculums.

Conclusion

This project has provided me with an in depth study of Habits of Mind (Costa & Kallick, 2008), growth mindset concepts (Myers et al, 2016), and connectivism (Bell 2011). I was able to make a useful reference matrix along with a curriculum guide that I can use with future classes. I consider my project to be a success because my matrix is easy to use and the curriculum guide can help many teachers in incorporating growth mindset (Myers et al., 2016), the Habits of Mind (Costa & Kallick, 2008), and connectivism (Bell 2011). The skills and strategies I have gained will increase my effectiveness as a teacher and have inspired more lifelong learning in me. I am excited to share my work with colleagues and continue on my quest of professional development within the area of comprehension.

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