Graduate Theses & Dissertations   Graduate Works

Spring 3-1-2016

Developing Costa and Kallick's Habits of Mind Thinking for Students with a Learning Disability and Special Education Teachers

Daniel Vollrath
dvollrath@arcadia.edu

Follow this and additional works at: https://scholarworks.arcadia.edu/grad_etd

"Developing Costa & Kallick's Habits of Mind Thinking for Students with a Learning Disability and Special Education Teachers within a Resource Room Setting"

Arcadia University

Ed.D. Program in Special Education

Daniel L. Vollrath

A DISSERTATION

IN

EDUCATION

Presented to the Faculties of Arcadia University in Partial Fulfillment of the Requirements for the Degree of Doctor of Education

Copyright Page

Approved and recommended for acceptance as a dissertation in partial fulfillment of the requirements of Doctor of Education

December 2, 2015

Special committee directing the doctoral work of Daniel L. Vollrath

Peggy Hickman, Ph.D. (Chair)
Associate Professor, Education

Kimberly Dean, Ph.D. (Committee Member)
Associate Professor, Education

Jodi Roseman, Ed.D. (Committee Member)
Special Education Director

Acknowledgement

Life is like a roller coaster, you have your highs, lows, and sharp turns on the track, all while enduring many emotions. My roller coaster ride of completing a dissertation has brought forth many turns on the track yet by the end of the ride it provided excitement and the opportunity to reflect on journey. On this wild ride I was lucky enough to have many supporters who inspired, motivated, and picked me up when I was down.

I would like to thank Lou Gatto for his collaboration, exploration, and display of interest with the Habits of Mind in his classroom. For the past four years he chose to incorporate the habits into his teaching practice at his own volition. Weekly conversations about the habits and comparing information led to gathering ideas for my study.

Next I would like to thank my mother, father, sister, and brother-in-law. The support and dedication they expressed throughout the whole dissertation process was remarkable. Your words of encouragement and constant reminder to keep pushing through this process helped with staying focused and determined.

My outstanding wife Linda, you never let me fall, and if I was about to you made sure to pick me up. The countless nights, days, and weekends that I devoted to reaching my goal was just as hard on you as it was me. I appreciate your understanding, compassion, and support. Baby Cassidy, you motivated and inspired me to reach this milestone. I love you both more than words could say.

Thank you Dr. Kim Dean and Dr. Jodi Roseman for supporting my efforts with my study. Having the opportunity to explain and discuss my research with both you helped enhance my writing and ideas.

My final thank you goes to Dr. Peggy Hickman for not only being the Chair of my committee, but making this whole process possible. Peggy, you are an outstanding leader, educator, and most importantly humanitarian.

Having all of you on my roller coaster has made for a life changing ride that I will never forget.

Abstract

Research has shown that although habits are easier to instill in the early years of children due to the neuroplasticity of the brain, new research has shown that the brains of older children retain the capacity for rewiring and change in habits (Costa & Kallick, 2014).

For students with learning disabilities and special education teachers, it is well known that the delivery of instruction needs to accommodate the learning ability. As students with learning disabilities progress through school the goal is to develop successful habits of mind that are necessary to compete in the 21st century. Through researching the habits of mind developed by Costa & Kallick and special education, it would seem logical to study the perceptions of special education teachers and students with learning disabilities on utilizing the habits of mind in the classroom. This mixed method research study gathered data through journaling, focus groups, interviews, and rating scales.

Findings from this phenomenological, mixed methods action research study included an increase in awareness of the habits of mind gained from both teachers and students through self-reflection, ability to enhance subject area material, and recognize the global nature of the habits within their lives.

Key Words: Habits of Mind, Students with a Learning Disability, Mixed Methods, Perceptions

Table of Contents

Chapter 1

Introduction

The goal of this mixed methods research was to determine if integrating and developing Costa & Kallick's Habits of Mind thinking in subject area resource room classes would students with a learning disability and special education teachers gain positive perceptions through the experience. Students and teachers had the opportunity to internalize Costa & Kallick's Habits of Mind and measure their progression of knowledge and understanding of these dispositions throughout the study.

This chapter begins with an overview of the background for the study that includes law, major research, trends in the field, and the knowledge of the research problems within schools. Following the background of the study, research problems are addressed comprising of the researcher's approach to the problem, assumptions, and researcher's perspectives. Research questions will follow to support and clarify the process of the study. Discussion of the context of the study will follow in regard to explaining the approach. Last, the rationale for the study will be clarified, allowing the reader to have more of an understanding for the significance of this process.

Background of the Study

This study is influenced by many aspects within the realm of education, with particular adherence to students with learning disabilities. Within special education, the Individuals with Disabilities Act of 1990 (IDEA PL 94-142), the No Child Left Behind Act of 2001 (NCLB PL 107-110), and the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA), all play a crucial role in developing students with learning disabilities across the nation achieve grade level content, receive services in a least restrictive environment, and require teachers to use evidence based- practices (Yell, 2006, p. 268). These laws are evident in schools across America

where increasing numbers of students with learning disabilities are receiving services in a general education classroom with special education support, at grade level curriculum, and from content certified teachers (Cobb-Morocco, 2001). Students with a learning disability who may not academically prosper from a general education environment, may benefit from a resource room setting, where the course mirrors objectives and goals of the grade level curriculum in a more individualized setting (Idol, 2006). In both environments, students with learning disabilities are accounted for legally within an educational setting. Although schools across the nation differ and change in regard to educational practices, pedagogies, and policies, the importance of following IDEA law and serving students with learning disabilities will always be upstanding. With evolving changes taking place pertaining to educational initiatives by states and country, all students need to be considered and brought into the equation for successful transformation.

The Common Core State Standards Initiative (CCSSI), a law put into effect in forty-five states and the District of Columbia, holds ground for change within America's education system. According to the Common Core State Standards Initiative (2014), common state standards are shared across each state to provide students with common understanding of what knowledge, skills, and abilities they are expected to learn in English and mathematics in order for them to compete in a global economy. The aligning of common English and mathematics curriculum across states represents the unprecedented shift away from individual state guidelines that are found to not be at equal measures across the nation (Porter, McMaken, Hwang, & Yang, 2011). Porter, Polikoff, & Smithson (2009), compared content level state standards with one another and found the level of alignment low to moderate. When considering students with a learning disability an advantage for CCSSI would elicit easier adaption into another district for a

transferring student (Shah, 2012). These findings add support for the implementation of CCSSI in America and creating an equal balanced curriculum for all students.

Within New Jersey, the impact of the CCSSI affects students and teachers at all grade levels. In conjunction with this national reform, twenty-two states including New Jersey, have adopted a new process to hold students accountable for the learning of the Common Core Standards. The PARCC (Partnership for Assessment of Readiness for College and Careers) is an online assessment with the vision of committing to build a pathway to college and career readiness for all students, creating high-quality assessments that measure the full range of the Common Core state standards, support educators in the classroom, make better use of technology in the classroom, and advance accountability at all levels (Castelhano, 2013). Beginning in 2014-2015, PARCC testing will be put into effect in many schools around the nation (Castelhano, 2013). According to Gerwetz (2013) if educators are preparing for a decline in the scores of students without disabilities when taking the PARCC assessment, then students with learning disabilities will be an urgent issue to address in relation to their ability and knowledge in completing this test.

In 2002 the development of the national initiative of incorporating 21st century skills into school standards and assessments was an action educational leaders and policy makers acted on due to the implications of students being technologically illiterate (Vreeberg et al., 2010). This call for change demands that students be prepared for 21st century skills needed to succeed in college, work, and life (Partnership for 21st Century Skills, 2008). Within the classroom, the 21st-century movement seeks to expose children to more authentic and interdisciplinary problem solving activities, and less on the teaching and content area skills in isolation (Huber & Breen, 2007).

In 2014, the American education system sent a message of need for change and accountability of teachers and students. The approach of developing successful schools is of great importance. Darling-Hammond (2010) argues that a key element toward equality and success of all students in America needs to include, "schools organized for student and teacher learning, designed to allow teams of professionals to create a coherent curriculum focused on critical content and skills, reinforced by shared norms and habits of mind, and exhibited through authentic assessments of performance that reflect the ways knowledge is used in the real world" (p. 280).

Major Research on Habits of Mind

The term *Habits of Mind* has become a buzz word in education within the nomenclature of the CCSSI, PARCC, and 21st century skills. In the framework of the PARCC, reinforcement of habits of mind in connection to the skills of speaking and listening is deemed critical (Partnership for 21st Century Skills, 2008). The framework and outcomes of the 21st century skills coincide with the habits of mind needed to perform and master. Within CCSSI, learning to apply 21st century writing skills, and move beyond pen and paper is essential for all students (Graham & Harris, 2013). Within the U.S. Common Core Standards, dispositions are referred to in relation to mathematical practices (Costa & Kallick, 2014, p. 28). The connection between all three initiatives and their goals show overlap for the habits of mind.

Many scholars define Habits of Mind using various names and definitions (Cheung & Hew, 2010). At closer examination, the terms suggest that habits of mind are similar in spirit (Tishman, 2000). According to Costa & Kallick (2008, p.17), "A habit of mind is a composite of many skills, attitudes, cues, past experiences, and proclivities. It means that we value one pattern of intellectual behaviors over another; therefore, it implies making choices about which patterns

we should use at a certain time." Within education, making connections to the habits of mind in the classroom environment, for both teachers and students, allows for practice and application of these intellectual behaviors.

According to Costa & Kallick (2014, p.1) a disposition refers to "thinking dispositions-tendencies toward particular patterns of intellectual behavior." Sizer (1992, p. 67) suggests that habit and disposition relate to one another and that all schools goals should be to develop successful intellectual habits. The opportunity to learn and practice the developing of dispositions over time can form patterns of student exhibited behavior (Davidson, 2013, p. 54). In order for students to achieve their full potential, it is imperative they are given opportunities to engage, develop, and demonstrate the skills and dispositions (U.S. Department of Educations, 2013, p. v).

Trends in the Field of Education

The trend of teacher development and performance has taken path due to implemented initiatives across the nation. In order for teachers to be highly effective they need to work in schools that are organized for success (Darling-Hammond, 2010, p 234). Having a shared road map for teaching that structures around a common understanding of instruction creates a professionalism of high standards for educators to succeed (Danielson, 2007, p. 2). When a framework for teaching is implemented it allows for meaningful discussions, creates a vehicle for professional development, and can be used for mentoring with new teachers (Danielson, 2007, p. 21).

Knowledge of the Research Problem

Students with learning disabilities do not present the habits of mind that students without learning disabilities exemplify in the classroom. The teamwork of both students with learning

disabilities and special education teachers needs to blend for success to bloom. In 2014, limited research has been conducted on how special education teachers can develop habits of mind and successful dispositions within students with learning disabilities. Without finding evidence-based practices for enhancing habits of mind within special education students, the building of success in education of the 21st century will be a struggle.

Research Problem

In the field of special education, students with a learning disability encompass a diverse group that present a wide range of abilities that need to be challenged in order to excel in a general education curriculum, and in life after high school (Darrow, 2014). With this in mind, students with a learning disability need to develop the habits of mind that students without a learning disability present. Just as teachers present particular habits of mind through deep questioning and analyzing of their own practice, students with a learning disability need the opportunities to emulate this daily in and outside of the classroom (Danielson, 2007, p. 93). When looking at students who are successful in school, they tend to present dispositions that positively affect their attitude, motivation, and learning of material in the classroom. The habits of mind are successful dispositions that become habitual over time and are essential for students with a learning disability to develop. Recognizing the effects of modeling, discussing, classroom culture, and self-reflection in relation to the habits of mind, it would seem logical to research how it can affect special education teachers and students with learning disabilities within a subject area resource room setting. This evokes the question of: How does providing opportunities to internalize and develop Costa & Kallick's Habits of Mind affect and influence personal dispositions in the classroom of students with learning disabilities and the special education resource room teacher?

Research Approach

In support of the researcher's ontology of Costa & Kallick's Habits of Mind, the researcher collected data from journals and evidence based practices on dispositions, students with a learning disability, curriculum, and 21st century learning. All data gathered had significant implications to the future of education within schools across America and development of successful habits for all students. The researcher selected the Habits of Mind created by Costa & Kallick due to the connections across curriculum and national standards. In 1982, Costa & Kallick ventured out to work with students and staff on habituating intelligent behaviors in the classroom and real life. The goal of developing these mindful strategies applied in a variety of settings and eventually was titled *Habits of Mind*.

To highlight the possibility that students with learning disabilities can develop and apply habits of mind thinking and behaviors within their classes and real life, a phenomenological, mixed methods action research study was conducted. By examining the effects of the habits with students with a learning disability, internalization of the habits of mind, and special education teachers understanding through implementation in the classroom, evidence was gained through the use of perspectives and rating scores.

According to Cuoco, Goldenberg, & Mark (1996), for human learning to formulate in connection with rigorous content, understanding of material needs to be integrated with essential skills, information, and habits of mind. The evidence and research identified for students with learning disabilities claims that learning content and skills across curriculum is a hardship.

It was the goal of this phenomenological action research study to measure the perceptions of students with learning disabilities and special education teachers through self-reflection in relation to their application to the habits of mind. The second goal was to determine the growth

and knowledge gained through the habits of mind for students with a learning disability and special education teachers of a resource room.

Research Assumptions

In schools across America, emphasis on standards, academic proficiency, and high-stakes testing has become an issue of concern and a driving force of legislation (Vreeburg, et. al, 2010). The CCSS Initiative calls for clear, measureable, and consistent standards for all students at each grade level that reflects the knowledge and skills needed in college and the workforce (Darrow, 2014). Other components included in the discussion of the CCSSI, or that play a role in some states, are 21st Century Skills, PARCC, and Danielson's Framework for Teaching. Often neglected, or mentioned without much description from these major initiatives is the need for implementation of successful dispositions. For students with a learning disability, their understanding of material and skills are not as polished as their non-disabled peers. According to Cobb-Morroco (2001), successful classroom work is shown when students with a learning disability interview with peers or teachers, engage in mindful problem solving, and journal on their thought process, all which allows them to rehearse their thinking process. The importance of students with a learning disability to develop successful habits of mind in the classroom and enhance their thinking process is two-fold. In the field of education little research has been done on the effects of utilizing Costa & Kallick's Habits of Mind within the classroom for students with a learning disability and special education resource room teachers. With limited research on students and teachers, it would be beneficial to know what special education teachers' perceptions of their teaching practice and student learning are in relation to Costa & Kallick's Habits of Mind within their resource classroom subject area?

Research Perceptions

The researcher is currently completing a doctorate program in Special Education. Prior educational degrees attained consist of a Bachelors of Science in Elementary and Special Education, and Masters of Science in Administrative Leadership. This dispositional study on the habits of mind, in the eyes of the researcher, plays a significant role in the future of education for students with a learning disability and their success in life.

As a special education teacher in a high school for the past nine years, the researcher has experienced many changes within curriculum, school-wide initiatives, teaching strategies, and state testing. Every school year a new initiative enters the building that is meant to change the culture and learning of all educators and students. Within past years, 21st Century Learning, Charlotte Danielson's Framework for Teaching, CCSSI, and PARCC, have all been introduced to the staff. In conjunction with each of these initiatives, the phrase "habits of mind" is often referred to within the nomenclature of each. In collaborative meetings teachers' dialogue about strategies they display, model, and discuss within their pedagogy and successful habits that are vital for success in school and life. For many students without a learning disability, their ability to present successful habits is more prevalent than with students with learning disabilities. There seems to be a continued struggle for developing successful habits to students with a learning disability within the classroom. One strategy that has not been attempted for students with a learning disability would be to incorporate self-reflection on how they display and utilize Costa & Kallick's Habits of Mind in their learning. In conjunction with this strategy, special education teachers' reflections would seem to play an important role in how they perceive the habits of mind within their classroom, students, and pedagogy.

In working with students with a learning disability this past school year in a resource English classroom, the researcher incorporated journal reflections each week on how students

utilized the Habits of Mind in and outside of the classroom. Provided below is a journal example

of a student with a learning disability in an English resource room setting:

Managing Impulsivity

Test taking makes me very anxious. Even though I studied a lot before the vocabulary

test, I got butterflies in my stomach. Because of this, I can't control my speech, and then

I stutter. This week I tried managing my impulsivity by using a system known as Red,

Yellow, and Green. This system helps to stop my body from becoming too stressful. It

aids me in recognizing that my body is hyperactive, and I need to bring my body back

into the green zone where I am less stressed out. If I didn't do this, I would not be able to

perform well, or focus on the many tasks that I need to accomplish. I also used Mrs. B's

speech techniques to help me calm down.

Persisting

Geometry does not come easy to me. I had a very hard time seeing angles this week. I

got very frustrated, but I knew that I had to keep persisting because I had a quiz that was

coming up. I tried and tried, but I couldn't get it. My mom suggested that I use different

colored pens to help me see the lines and the angles better. Over and over again, I used

the pens, and finally I was able to see which angles were needed to find the correct

measurements. Persistence paid off. With a lot of time, care, and effort, I succeeded. I

received 100% on my quiz. The result was incredible!

From the perspective of a freshman Biology general education classroom, students without a

learning disability completed the same journaling prompt throughout the semester. Below is a

journal example of a student without a learning disability:

This week, I was able to think interdependently in the science classroom. When given the task to create a fettuccini structure out of uncooked pasta to hold up a textbook, it was evident that I was going to have to work together with my group to make it happen. As a team, Mary, Sarah, and I were able to create a structure that held up the textbook. This is because we listened to each other's ideas, and worked as a group. We scrapped ones that weren't necessarily going to work, and built off of those ideas who seemed like they would help us to create a successful structure

Outside of the classroom, at my own house, I was able to think flexibly. I got my braces on this week, and was in a lot of pain because of them. My mom told me that I would get used to them eventually, but I was still upset because they would be on for the next twenty months. I could still be annoyed with my braces, but instead I'm looking at it as a positive. I turned my perspective around, and am looking forward to how my teeth are going to look after I get my braces off.

With the support of a Science teacher, the researcher was able to gather multiple perspectives of students without a learning disability within a Biology classroom, and students with learning disabilities within an English resource classroom. The perceptions within both classrooms were informative and evoked self-reflection on the utilization of the habits of mind. With a more focused and aligned research study put in place, a research question answered was: What are students with learning disabilities perceptions of Costa & Kallick's Habits of Mind in connection to learning within a resource room subject area?

Working in the capacity of an in-class support Spanish classroom and various English classroom settings, the researcher has been exposed to numerous students with learning disabilities who have trouble adapting to changes and presenting the necessary dispositions to

succeed. There seems to be a significant struggle in students with learning disabilities displaying effective dispositions that will be necessary for their success with future education and real life. The special education teachers within the researcher's school that teach resource room classes recognize that this type of classroom consist of all students with a learning disability. A goal within the Special Education department at the researcher's school is to "integrate Habits of Mind into the classroom and/or clinical setting". Tied to this department goal, many special education teachers have selected a Professional Development Plan (PDP) of having students with a learning disability reflect upon the habits of mind in connection to the course. A sub-question to reflect on for teachers was: Do resource room special education teachers feel that their PDP and department goal are being met effectively through incorporating Costa & Kallick's Habits of Mind into their teaching practice? The sub-question lended information into the research question of: What are special education teachers' perceptions of their teaching practice and student learning in relation to Costa & Kallick's Habits of Mind within their resource classroom subject area?

The use of a mixed method action research study helped focus the researcher's professional knowledge of how to bring forth Costa & Kallick's Habits of Mind thinking within students with a learning disability, and enhanced special education teachers' development and incorporation of the habits of mind within their resource room. With the literary research on the habits of mind, and researcher's knowledge of the vision, goals, special education teachers' professional development, and needs of students with a learning disability, the following research questions were the focus of the dissertation study.

Research Questions

1. **Qualitative.**

(1) What are students with learning disabilities' perceptions of Costa & Kallick's Habits

of Mind in connection to learning within a resource room subject area?

(2) What are special education teachers' perceptions of their teaching practice and student

learning in relation to Costa & Kallick's Habits of Mind within their resource classroom

subject area?

2.   Quantitative.

Is there a difference for students with learning disabilities and special education teachers

of a subject area resource room in the application and preference of certain Habits of

Mind used over another?

Contexts of the Study

The setting for the study took place at a public high school in an urban, Northeast region

of the United States. With a student population of approximately 3,000, consisting of grades 9th

through 12th, this campus like setting constitutes its own regional school district. The special

education teachers within the school teach within an ICS, resource room, learning center,

alternative school, and/or life skills setting. Regardless of the students' learning disability, all

students are mandated to participate in state accountability testing.

Participants

Participants in this study included voluntary students with a learning disability in a ninth

and tenth grade subject area resource classroom. Parent consent and student assent was necessary

in order to participate. Students throughout the course of the study self-reflected through

journaling about their use of Costa & Kallick's Habits of Mind within the learning environment.

Interviews were conducted throughout the study when deemed necessary or in order to gain

better perspective in reference to students' reflections. Focus groups met three times to allow

students to listen to various perspectives of their peers, and develop depth within their thinking

pertaining to Costa & Kallick's Habits of Mind. Every focus group was recorded and transcribed.

The development and growth of Costa & Kallick's Habits of Mind was measured through a

rating scale in the beginning and end of the study.

The special education resource room teachers of these students were invited to participate

in the study with a signed consent form, in accordance with IRB. Teachers self-reflected through

journaling about their use of Costa & Kallick's Habits of Mind within the classroom, activities,

and students learning. Before the study began teachers were given training on Costa & Kallick's

Habits of Mind along with ideas, activities, and information about integrating into the classroom.

It was by no means mandatory that teachers incorporated Costa & Kallick's Habits of Mind into

their everyday plans. The goal was for teachers to develop an activity or lesson once a week that

made a connection to the habits. Interviews took place as needed throughout the study with

teachers. A rating scale of the sixteen habits was incorporated into the study as a means of

growth and development from start to finish.

Methods

This phenomenological, mixed methods action research began with introducing Costa &

Kallick's Habits of Mind to students with a learning disability and special education resource

room teachers participating in the study. After presenting Costa & Kallick's Habits of Mind and

receiving consent and assent forms, participants rated their knowledge of the sixteen habits by

means of a rating scale. This information provided the teachers and students level of

understanding for Costa & Kallick's Habits of Mind with an opportunity to expand through

writing. The 8-week intervention began in December and ended in February. Special education

teachers journaled weekly about their experience with incorporating Costa & Kallick's Habits of

Mind into their classroom, and interviewed when deemed necessary by the researcher. Students

journaled weekly, attended focus groups, and interviewed with researcher as needed. At the end

of the study the sixteen habits rating scale was revisited to capture growth in students and special

education teachers throughout the study. Data was collected at the end of the study to document

the perspectives and growth of special education teachers and students with a learning disability

in utilizing Costa & Kallick's Habits of Mind within their resource room course. Information

obtained from those participating was integrated in the results and analysis section of this

research study.

The use of Google Docs and composition books was used to obtain journal reflections

from both special education teachers and students with a learning disability. Within the past two

years, staff and students at the site of the research location have adopted Google for email,

writing papers and assignments. Keeping track of journal reflections through this form of

technology allowed students and teachers to share that information with the researcher.

Rationale for and Significance of the Study

The wealth of research on dispositions and Costa & Kallick's Habits of Mind has shown

success and promise for students in schools across the United States and Australia. When a

school adopts a vision about the Habits of Mind that is shared by staff, grade levels, and subject

areas, the more likely the dispositions will be achieved (Costa & Kallick, 2009, p.43). At the

researcher's school, the vision states "Every student and staff member will master the

knowledge, skills and habits of mind needed to effectively compete, connect, communicate and

collaborate in a global society". To build upon the vision of the researcher's school, a starting

point needs to be established. For the researcher, students with learning disabilities and special

education teachers of a resource room were the areas to begin with for the research.

A lack of data continues with the research on evidence-based practices on the perceptions and understanding of Costa & Kallick's Habits of Mind for students with a learning disability and their resource room teachers. The significance of this study was to develop and incorporate Costa & Kallick's Habits of Mind thinking into the thought process of students with a learning disability and special education teachers of a resource room. Although students with a learning disability are not considered to benefit from intelligent behavioral skills, that is far from the truth (Burgess, 2012). Martin (2001) believes that teaching and promoting higher-level thinking skills to students with learning disabilities is very beneficial. With little research on the Costa & Kallick's Habits of Mind for both special education teachers and students with a learning disability, in the context of learning in subject area resource rooms, this strategy is of great interest to research.

For students with a learning disability entering the 21st century work force or college, their development of effective habits of mind and dispositions are crucial to their success. Findings from this study informed and extended current best practices for building Costa & Kallick's Habits of Mind for students with learning disabilities within the classroom. In order for students with a learning disability to develop habits of mind, special education teachers need to develop knowledge and incorporate habits of mind in activities and assignments. The combination of both students with a learning disability and their special education resource room teachers in supporting the growth and development of the Habits of Mind was found to be effective. In addition the school vision and student growth provided a basis and need for professional development within the researcher's building. In a broader light, the idea of establishing a best practice option within all classrooms and schools around the country could prove to be rewarding for education at all levels. The significance of using an action research

approach provided insight of collaborative work between students with a learning disability and special education teachers on Costa & Kallick's Habits of Mind. Through this approach the ability to provide thinking skills, self-reflection, disposition building, discussion, and authentic 21st century thinking for students with a learning disability and special education teachers is imperative.

Conclusion

Overall, students with learning disabilities have a harder time developing successful dispositions in and outside of school than students without learning disabilities. The dispositions students with a learning disability develop in their journey through elementary and middle school often presents an indicator for their success at the high school level. Often with all children, the dispositions they present early in life within learning at the educational setting becomes ingrained and are found to be habitual. Although habits are easier to instill in the early years of children due to the neuroplasticity of the brain, new research has shown that the brains of older children retain the capacity for rewiring and change in habits (Costa & Kallick, 2014, p. 59). The struggling question in education for students with learning disabilities is "what is the most effective approach for developing habits of mind for success?", with answers still limited. Finding evidence-based practices for developing Costa & Kallick's Habits of Mind in students with learning disabilities and special education teachers gives the world of special education a framework and starting ground for tying in all the new initiatives.

The "habits of mind" has become a phrase so often used in new initiatives and reforms within the education system of the United States. Teachers are now asked to implement habits of mind into their daily practice, lesson plans, curriculum, and most importantly their students. For many educators, habits of mind may differ in regard to Costa & Kallick's dispositions, and

certain teachers may incorporate their own selection of habits within their pedagogy and development in their students. For many high school teachers the dispositions that their students bring with them from earlier education are often reinforced and elicit effective student learning. Special education teachers are presented with the challenge of changing and developing dispositions within students with learning disabilities so they can be successful in school. Very little research has been conducted on special education teachers' ability to incorporate Costa & Kallick's Habits of Mind to students with learning disabilities within a resource room.

In the following chapters of this dissertation, past and current literary research focused on special education settings are reviewed in relation to curriculum, 21st century initiatives, and the connections of teaching and learning of Costa & Kallick's Habits of Mind. The methodologies of how to address the issue of developing Costa & Kallick's Habits of Minds in students with learning disabilities and special education teachers in subject content areas are described in chapter three. Throughout the dissertation the connection of Costa & Kallick's Habits of Mind and dispositions are mentioned in unison.

As the importance for habits of mind grows within students with learning disabilities, and the responsibility of special education teachers for developing those dispositions, these goals need to support one another. Can students with learning disabilities and special education teachers of subject area resource rooms work together to enhance their knowledge and incorporate the Habits of Mind into their daily learning? This research shined some light to see if this achievement is possible within the capacity of a high school.

Chapter 2

Literature Review

Habits of Mind Based Curriculum for Students with a Learning Disability

The purpose of this research is to review literature documenting strategies and approaches in the teaching and learning of the habits of mind within special education teachers and students with a learning disability. In order to become familiar with the habits of mind and students with a learning disability, this review provides insight to special education and the teaching of students with a learning disability; framework for teaching students who are learning disabled; information on sixteen habits of mind, and lastly, best practices for teaching habits of mind into curriculum subjects and students with a learning disability. With approximately 6.5 million students with disabilities being served in America's public schools, 44.4% of them have been diagnosed with a learning disability, which represents the largest disability category (U.S. Department of Education, 2004). According to National Association of Special Education Teachers (NASET), children with learning disabilities often lack the strategies for planning and organizing, setting priorities, and predicting and solving problems. These strategies are a few examples of habits that all students need to be mindful of in order to succeed in the 21st century. As educators enter the 21st century, the need to be mindful of the practices and leadership they promote to students is crucial (Drago-Severson, Ashghar, Blum-DeStefano, & Roloff, 2011). Research indicates that students benefit and their achievement increases when teachers learn and grow in school (Donaldson, 2008).

Special Education and Learning Disabilities

The overall goal of special education was to ensure that students with disabilities were provided an opportunity to profit from education, just like all other youngsters (Vaughn &

Linan-Thompson, 2003). In special education, the fundamental thinking lies in the failing to

learn in an expected way due to function of deficits (Trent, Artiles, & Englhart, 1998). For

example, learning to read, is a developmental process involving the acquisition of many skills,

for instance, recognizing letters, vocabulary, phonetic awareness, and comprehension skills

(Kauffman & Sasso, 2006). Once identification of the deficient skills is recognized, effective

teaching methods are put in place for a child to be successful (Cochran-Smith & Dudley-Marling,

2012). As special educators, it is important to not focus on the "dis" in disability, which focuses

attention on what students cannot do well, instead focus on the human variation (Cochran-Smith

& Dudley-Marling, 2012).

History of Special Education

       To understand the current status of children with learning disabilities, one must

understand the history of special education to where it is today.

       Historically, special education has been approached by identifying students' processing

       deficits and matching treatment practices to these deficits. Recent research has suggested

       that the most productive model for improving outcomes for students with a learning

       disability (LD) is one in which students' instructional gaps are identified, progress

       relative to these gaps is monitored, and explicit and intensive intervention is provided

       (Vaughn & Linan-Thompson, 2003).

       The knowledge of special education, special education law, and legislative requirements

are essential pertaining to children with disabilities; and should be familiar for all stakeholders

within education (Bertrand & Bratberg, 2007). It is imperative to define special education, and

what it means to have a learning disability. According to IDEA of 2004, the federal definitions

are as follows:

Special Education: instruction that is specifically designed, at no costs to you as parents, to meet your child's unique needs (Individual with Disabilities Education Act, 2004).

Specific Learning Disability: a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations (Individual with Disabilities Education Act, 2004).

Special education, federal legislation, case law, and preparation to serve students with disabilities began to play an integral role in the late 1950's (Brownell, Sindelar, Kiely, & Danielson, 2010). In time, the national commitment to educating students with disabilities in the "least restrictive environment" came into effect through the Education of All Handicapped Children Act of 1975 (Cobb Morocco, 2001). The Individuals with Disabilities Education Act (IDEA) enacted in 1977, and later reauthorized in 1997, and renewed in 2004, ensured that all students with disabilities were given the right to a free and appropriate education (Vaughn & Linan-Thompson, 2003). As the law changed through the years, the overwhelming numbers of the students with disabilities has doubled since the 1970's (Cochran-Smith & Dudley-Marling, 2012). According to National Center for Education Statistics (NCES), "in 1976-1977, approximately 3.6 million children were receiving services. In 2008-2009, almost 6.6 million were in special education." As the number of students with learning disabilities increases, the push for students to be included in the general education program is mandatory (Idol, 2006). Federal law has made an expectation that all students will have access to the general education curriculum, which in turn requires academic content courses to be developed and revamped to meet the learning needs of students with learning disabilities (Lee, Soukup, Little, & Wehmeyer, 2009). It is necessary that all students with disabilities have access to rigorous curricula, in order

to equally participate in learning, work, and have the ability to be successful in life (Cobb

Morocco, 2001). In order to be successful in this goal, students with disabilities receiving special

education services need to meet once a year to review their individualized education plan (IEP)

(Barnard-Brak, & Lechtenberg, 2010).

Individualized Educational Plan (IEP)

The U.S. Department of Education defines the IEP as "a written statement of educational

needs, outcomes, and accommodations for children with disabilities that is created, reviewed,

and revised at regular intervals" (U.S. Department of Education, 2004). According to the U.S.

Department of Education (2004), the child should, depending upon the disability, meet annual

goals outlined in the IEP and make progress in their specified education curriculum. Goals and

progress are evaluated at the IEP review meeting, where all stakeholders in the child's education

meet in order to develop, analyze, inform, and discuss the progress of the child (Dabowski,

2004). According to IDEA (1997), "the IEP has continued to direct (a) educational needs; (b)

goals and objectives; (c) placement; (d) evaluation criteria; (e) present levels of educational

performance; and (f) duration of programming modifications for students who receive special

education services." Through revisiting of this document, it allows all relevant stakeholders of

the child to track their goals and objectives all the way through high school. According to

Lowenthal & Bassett (2012), often when students with disabilities reach the secondary level they

present deficits with basic skills and have trouble meeting general curriculum demands. In this

case, the IEP has the authority to delegate what special services are provided to a student with

disabilities, and are not provided (Barnard-Brak, & Lechtenberg, 2010). In special education the

service delivery of instruction to students with disabilities is vital to their success and

comprehension of curriculum (Idol, 2006). According to Idol (2006), the intent for various

options of instructional delivery within special education meets the needs and demands for

students with disabilities in order for them to be educated within the least restricted environment

(LRE).

Special Education Service Delivery

Resource room

The resource room offers small group learning environments, with a primary academic

course focus that closely equates to the general education environment, both physically and

socially (Jones & Hensely, 2012). According to Wiederholt & Chamberlain (1989), the resource

room is a classroom where students receive instruction in a subject on a regular basis. The

collaboration of both general education and special education teachers about program design is

critical in order to make sure each mirrors the objectives and goals for the course (Idol, 2006).

For resource room teachers, a main component consists of modifying curriculum and instruction

to address various learning styles of students with learning disabilities (Vaughn & Linan-

Thompson, 2003). Due to the low numbers of students within a resource room setting, the

availability of supports is more available for students with learning disabilities (Idol, 2006).

Often students within a resource room setting have the ability to meet their goals within their IEP

due to more individualized instruction (Swanson & Vaughn, 2010). According to Idol (2006), the

goal for collaborating teachers within a subject area should be to eventually advance the student

from the resource room to an inclusive general education classroom.

Inclusive Classroom Setting

Over the past two decades, an inclusive classroom setting (ICS), in addition termed

inclusion, has been put into effect within special education. Inclusion consists of students with

learning disabilities placed within a general education classroom, with instruction and

collaboration of both a general education teacher and special education teacher (Allday, Neilsen-Gatti, & Hudson, 2013). An inclusive environment provides an equal curriculum opportunity to all students, which should include higher-order thinking, processing, and problem-solving skills (Vaughn & Linan-Thompson, 2003). According to Cobb & Morocco (2001), in a language arts curricula, prior focus pertained to mostly information and basic skills, whereas the new reform in curricula has shifted to more of an investigative, interpretational, and reasoning approach. Every year students with disabilities are being assessed through the same means as general education students, therefore, it is critical that students with disabilities receive the instruction from highly knowledgeable content teachers and through support of special education teachers (Smith et al., 2010). In a study by Idol (2006) it was found that educators within a school district gained more of an appreciation for an inclusive classroom setting.

Environmental Setting

Although classrooms differ in instructional settings, each needs to meet the standards and curriculum goals within education. All students, in order to succeed in life, need to learn essential skills, such as critical thinking, collaboration, communicating, and problem-solving (Partnership for 21st Century Skills, 2009). These skills are habits that are essential to the success of students.

Framework for Teaching Students with a Learning Disability

A framework for teaching students is useful and helpful by having a road map for a shared understanding of teaching (Danielson, 2007, p.18). For students with a learning disability, adapting and designing instruction that incorporates strategies and "ways of knowing", are essential for better understanding of material within a subject (Cobb-Morocco, 2001). According to Taylor (2001), content knowledge, skill development, and learning how to learn for a lifetime

are essential in order for students to develop more sophisticated ways of knowing and interacting with the world. Fostering learning that occurs cognitively, affectively, experimentally, and with reflection, allows students to gain a true sense of integration within their learning (Taylor, 2001). According to Smith et al. (2010), for students with learning disabilities, teachers must be sure to modify and adapt curriculum, instruction geared towards individual students, assessments, and prepare students for state testing. The framework for teaching students with disabilities needs to meet equal standards of students without disabilities. According to Danielson (2007, p.90), the foundation of the framework of teaching needs to incorporate flexible and profound understanding of content, ability to formulate and test hypothesis, analyze, and be able to transfer learning into other subjects and real world situations. As education shifts to more accountability and integration of learning, students with learning disabilities need to become more independent learners, form habits that will allow them to thrive in the twenty-first century, and adapt to the framework of teaching and learning (Danielson, 2007, p.93).

21st Century Learning

With educational leaders and policy makers demanding ambitious goals in order to prepare youth for the 21st century, the goals within curriculum need to be altered to meet these demands (Lowenberg Ball & Forzani, 2009). The command to simultaneously meet 21st century skills and NCLB mandates, leaves many school leaders in a position that calls for change and creativity on how to meet standards and goals (Schoen & Fusarelli, 2008). Defining 21st Century Learning and Skills can be explained in a multitude of ways, here is one way:

Legislators and business leaders are demanding that today's students be prepared with

21st-century skills needed to succeed in college, work, and life—including core subjects

such as English, mathematics, sciences, history, and foreign languages; life and career

skills such as self-direction, productivity, and social and cross-cultural skills; and

information, media, and technology skills (Partnership for 21st Century

Skills, 2009).

A component of 21st century learning and teaching focuses on technology. Harvey –

Woodall (2009) found that with the increasing amount of money spent on classroom technology

in schools today, a correlation exists between student achievement and the integration of

technology. Appropriate use of technology to enhance learning is important in schools today,

although educators need to remember that these tools need to be used and implemented

effectively for learning to take place (Danielson, 2007, p. 36). When effective use of technology

is implemented in major subject areas, achievement tends to show positive outcomes (Protheroe,

2008). A study conducted by Lemke & Sweeney (1999), found in eighth grade mathematics

classes, teaching higher order thinking skills through the use of technology presented increases in

students course achievement.

Technology used effectively presents positive student attitudes toward themselves and

their learning when utilizing technology for assignments (Protheroe, 2008). Backer (2010) found

that in higher education the use of technology can improve teacher experience; and build on the

students learning through eliciting enthusiasm with working through the use of technology. The

solution to education is quite elementary, teach our students in the way they learn, by building on

the 21st century skills they already know and possess (McCoog, 2008).

Vreeberg Izzo, Yurick, Nagaraja, and Novak (2010) tested 287 samples, 119 students

with disabilities, on their effectiveness with a curriculum designed to teach technology and 21st

century skills, for transition into a career or post-secondary education. Students in the

experimental groups showed significant gains when compared to the control group. The results proved that the curriculum produced improvements in students' 21st century skills. For students with disabilities, receiving the skills and behaviors that will prepare them for the workforce or post-secondary life is pertinent to their success. This study signifies the importance for all students to demonstrate knowledge, skills, and competencies in order to compete in the 21st century.

Demanded Skills

According to Mitchell, Skinner, and White (2010), technology skills for career employment are necessary in the workplace; although they are not enough to keep employers satisfied. The emphasis of "soft skills", are deeming critical importance within the workplace according to business leaders today (Nealy, 2005). Soft skills, otherwise known as "21st century skills", encompass traits of people-related and personal skills (Gewertz, 2007). Flynn & Thompson (2008) define soft skills as employment skills that focus on: fundamental skills, thinking skills, business skills, community skills, people-related skills, and personal skills. Klaus (2010) presents the soft skills a doctor would utilize, for example, active listening, empathy, and communication. The skills presented in this example draw on selected habits that individuals utilize from within their mental and personality attributes.

Robles (2012) conducted a study to determine the critical 21st century skills employers want from their employees. College students within a business communication course interviewed two executives on their 10 most important soft skills they wanted from new employees. The results identified these skills as most important: integrity, communication, courtesy, responsibility, social skills, positive attitude, professionalism, flexibility, team work,

and work ethic. According to Costa & Kallick (2008, p. 17) the skillfulness to carry out, use, and

incorporate habits and skills in everyday life requires reflection and evaluation in order to carry

them forth in the future. In the above study, the important skills require the ability to form a habit

within the circumstance of a workplace.

Interpersonal skills in the 21st century prove to be in demand for employers seeking

employees (Glenn, 2008). Schools across America must focus more on "soft skills" in order for

students to succeed in the evolving economy (Zehr, 1998). With teaching course curriculum,

educators find it difficult to implement a unit of soft skills due to the limited time within a

schedule (Evenson, 1999). Knowing that curriculum may not allow for teaching soft skills,

finding a way to include them within a curriculum can be a possibility (Evenson, 1999). For

students with a learning disability, integrating 21st century skills, content information, and

"habits of mind", can support students in learning rigorous content and preparation for the work

force (Cobb-Morocco, 2001).

Habits of Mind

Covey (2004, p. 47) defines a habit as "the intersection of knowledge, skill, and desire".

A habit can be learned and unlearned, should not be considered a quick fix, and needs full and

dedicated commitment to the process (Covey, 2004, p. 46). Habits allow humans to develop

personal acts into dispositional tendencies (Adams, 2006). Habits give opportunity for humans to

extend themselves in order to become habitually successful with an action. For example, typing

on a keyboard for the first time may be challenging and take time; although over time fingers

will gradually learn the landscape of a keyboard and allow the action to be habituated. Perkins

(2000) informs that one should have habits of mind such as being open-minded, just as one does with brushing their teeth, both can be exhibited and measured.

Habits of Mind can be viewed by humans in a variety of different ways. According to Neo & Chang (2007) concentration on affective aspects of thinking are considered to be viewed as habits of mind. When a teacher analyzes their pedagogy and reflects on daily instruction, this becomes a habit of mind (Danielson, 2007, p.93). Teaching students in the 21st century requires preparation in skills for the workforce, enhancing thinking skills, instilling life-long learning, promoting responsible citizenship, and ability to adapt in a constant changing society (Costa & Kallick, 2008).

The Habits of Mind formulated and presented by Costa & Kallick (2008) are focused on how students behave when they don't know the answer. With the list of habits consisting of sixteen, it is by no means complete. These habits are seldom performed in isolation and can consist of utilizing more than one in various situations. All 16 Habits of Mind listed below can play a role in learning and teaching within educational settings, real world experiences, and as an internal compass throughout life.

Persisting

People exemplify persistence by sticking to a task without giving up until it is completed (Costa & Kallick, 2009, p.38). For students with a learning disability, or attention deficits, many times when an answer cannot immediately be known, the habit of giving up or writing down any answer is their last resort (Costa & Kallick, 2008, p.18). Often students with attention deficits are easily distracted, inattentive, hyperactive, impulsive, and lack problem solving skills, which in turn forces them to give up (Shillingford-Butler & Theodore, 2013). Persistence includes more

that just "not giving up" when confronted with a problem; the ability to recognize and respond with developed strategies is the habit preferred (Anderson, 2010).

Burgess (2012) conducted a study on an elementary school with a habits of mind philosophy approach listed in the vision and mission statements. The study focused on the impact that the habits had on children who displayed challenging behaviors in their early school years. The eight habits listed below were linked to curriculum and behavior goals identified by school staff: persisting, managing impulsivity, listening with understanding and empathy, thinking flexibly, thinking and communicating with clarity and precision, striving for accuracy, applying past knowledge to new situations, and taking responsible risks. By means of three different data collections, persisting and listening with understanding and empathy showed the most prominent increase within the targeted group of all the habits.

Managing Impulsivity

The act of managing impulsivity equates with being able to think before you act (Costa & Kallick, 2009). People who manage impulsivity demonstrate qualities of reflecting before answering questions, gather data efficiently, listen closely to directions, and consider alternative points of view (Costa & Kallick, 2008, p.19).

According to Posavac, Sheridan, & Posavac (1999), in school settings being unable to manage impulsivity can negatively affect classroom instruction, environment, and behavior. In the Posavac, Sheridan, & Posavac (1999) study, the aim was to utilize a behavioral management technique in order to facilitate impulsivity within children with Attention Deficit Hyperactivity Disorder (ADHD). Four 8-year old boys were selected for the study that took place within a summer social skills program. All four subjects were diagnosed with ADHD and receiving

stimulant medication at the time of study. Implementation of a cueing procedure that involved subjects to raise their hand before speaking out loud and out of turn was put in place. Four methods of cueing were used along with goals for each student framed in terms of positive behaviors. This cueing procedure deemed successful in controlling impulsivity of students with ADHD and their ability to raise their hand in a structured setting.

In addition to the support above, Duckworth and Seligman (2005) conducted a study on self-discipline and student performance. Participants within the study consisted of two consecutive 8th grade-cohorts from a competitive magnet school. Through this study, researchers found that adolescents who were highly self-disciplined outperformed their more impulsive peers on every academic performance. This finding backs research in the fact that students who are less impulsive and self-disciplined, are most successful than their impulsive peers.

Listening with Understanding and Empathy

Covey (2004) stated; "When I say empathic listening, I mean listening with intent to understand. I mean seeking first to understand, to really understand. It's an entirely different paradigm. Empathic (from empathy) listening gets inside another person's frame of reference. You look out through it, you see the world the way they see the world, you understand their paradigm, you understand how they feel" (pg. 240).

According to Costa & Kallick (2008, p. 20), listening is one of the least taught skills in schools today. Effective listeners attempt to understand what others are saying by devoting their mental energies to their partner's ideas.

Thinking Flexibly

An ability to think flexibly consists of being able change your way of thinking through addressing a problem from a new angle (Costa & Kallick, 2008, p. 22). Students with a learning disability often have trouble considering alternative points of view and feel that the only way to solve a problem is their way (Shillingford-Butler & Theodore, 2013).

In the 2012 study with Zielinski et al., three students diagnosed with a learning disability in written language were provided with an intervention to increase their spelling accuracy. The Cover, Copy, Compare (CCC) strategy was implemented over 20 sessions within a high school resource room. This strategy begins with copying a word while looking at the correct spelling; next cover the word along with the copied word and write the word for memory; lastly, if word is correct in spelling move on, if not copy the word three more times. All three subjects showed an increase in performance when compared to their baseline scores. The results indicated that this intervention increased spelling performance, deeming it successful for all students. Students in the study were receptive to the intervention which allowed them to think flexibly with guidance of their teacher.

Teachers demonstrate thinking flexibly on a daily basis for many different reasons and circumstances (Danielson, 2004). One circumstance involves the ability of shifting from one activity to another in order to improve students understanding of material (pg. 88). Second, using a "teachable moment" can be a catalyst for thinking flexibly on a concept (pg. 88). Last, for a student having difficulty learning a concept, the teacher can search for an alternative approach that will elicit easier comprehension (pg. 89). Teachers demonstrating flexible thinking within the classroom can set an example of how this habit of mind can be utilized.

Thinking About Thinking (Metacognition)

Learning how to learn, thinking about one's own thinking, and our ability to know what we know and don't know, is an essential skill for all learners to utilize as a habit of mind (Huitt, 1997; Costa & Kallick, 2008, p. 24). As stated by Costa & Kallick (2008), "The major components of metacognition are, when confronted with a problem to solve, developing a plan of action, maintaining that plan in mind over time, and then reflecting on and evaluating the plan upon its completion" (pg. 24). According to Saunders-Stewart et al. (2012), when children are guided through practice and instruction on certain thinking processes, their ability to develop a metacognitive habit of mind increases.

In the 2009 study with Wiersama & Licklider, 8 college students participated in a phenomenological study of learning in the community. Working as an interdisciplinary cohort, student objectives on assignments were to create thought provoking questions, answer challenging peer questions, and work effectively as team members. One goal of the study was to understand what affected development as responsible learners. Data collection of interviews, open-ended questions, and students written work was gathered for analysis. Eight themes emerged in the study. The themes of metacognition and continuous reflection blended together for exploring the intentional mental processing as a habit of mind. Once students exhibited new habits in thinking and developing reflection as a habit of mind, the next challenge was to engage them in deeper reflection. By the end of the semester students questioned their old paradigm of learning and embraced a new understanding for thinking metacognitvely. One student's self-assessment provided evidence of metacognitive thinking: "I think this process [metacognition] represented a gradual growth in my awareness of my unawareness. What I mean is that I think I began to realize that I didn't think enough about my thinking about the world around me. Near the end of the semester, I no longer seemed to be thinking as much about what we were doing as

about what I was thinking. Not to say that I didn't have thoughts about what we were doing, but often I'd stop and think about where that thought was coming from" (pg. 123). It was concluded that students need to be provided with experiences that are challenging in order to develop new habits of thinking metacognitively and with deep reflection.

Striving for Accuracy

Humans who have developed the habit of striving for accuracy display the ability to check over work, pay attention to detail, recognize and correct inaccuracies, and add greater clarity to their final product (Marzano et al., 1993, p.38). Costa & Kallick (2008, p.26) equate striving for accuracy to the habits of a craftsman. "To be craftsmanlike means knowing that one can continually perfect one's craft by working to attain the highest possible standards and by pursuing ongoing learning to bring a laserlike focus of energies to accomplishing a task" (Costa & Kallick, 2008, p.26). Students that lack this habit of mind often do not check for precision, are content with minimal effort, and more interested in getting the assignment completed quickly without aiming for perfection.

Questioning and Posing Problems

As children proliferate and become more inquisitive in the world, they raise their ability to problem solve and ask questions (Costa & Kallick, 2008, pg. 27). According to Kuhn (2005, p.35), curiosity and inquiry must be nurtured and valued in the lives of children, or this important quality may squander. With curiosity looming in the minds of students, cognitive skills are necessary to effectively structure question-asking ability to solve problems and gain information (Saunders-Stewart, Gyles, & Shore, 2012).

In the 2001 review with Cobb-Morocco, the REACH Institute was engaged in a five-year program on teaching for understanding of students with disabilities. The goals of the program focused on authentic tasks instructional design, opportunities to develop cognitive strategies, social learning, and engaging students in constructive conversation. All areas of investigation incorporated the skill of questioning and problem solving through various methods. Through authentic task work, students constructed knowledge and gathered information through solving problems and questioning. Cognitive strategies showed through questioning their own thinking process when working on different tasks. Social mediation and constructive conversations wrap together through eliciting questioning from a variety of perspectives and developing questions for personal understanding. From the information gathered, all four forms of inquiry support the assertion that students with learning disabilities can benefit within the educational setting and in real life.

Applying Past Knowledge to New Situations

Thomas A. Edison quoted, "I've never made a mistake. I've only learned from experience." (Costa & Kallick, 2008, pg. 28).

When humans are confronted with an issue, their ability to refer to prior knowledge and experience assists in solving problems (Costa & Kallick, 2008, pg. 28). Often students with learning disabilities do not have the ability to attach one event and apply it to another context in order to make learning connection. According to Feuerstein et al. (1980), when humans cannot make a connection in one event and apply it to another, this is referred to as an "episodic grasp of reality". The inability of this habit can affect learning and hinder students educational experience.

In an article from Thorson (1995), a high school English resource room class presented the play *MacBeth* using an unabridged version. Students within the classroom ranged in age from 15 to 20 years old. All students presented poor grammar, spelling, punctuation, and all were viewed as not academically motivated. Through developing a curriculum designed around individual interests, talents, abilities, and habits, students all eventually became engrossed with the reading of *MacBeth.* Throughout the reading of each act and performance, students applied past knowledge of subjects with the play. For example, MacBeth was compared to the local gangs and drug lords within the news, often discussed in prior History courses and with current event issues. The play consistently allowed for students to make connections to plot, characters, and theme, allowing the ability to compare these literary elements to their families, community, and national news.

Thinking and Communicating with Clarity and Precision

According to Costa & Kallick (2008, p. 29), people who intelligently think and communicate with clarity and precision express themselves accurately through both writing and speaking. Individuals' who strive in perfecting this habit focus on their ability to think critically, support statements with explanations, use precise language, names, labels, and analogies. Getting their point and information communicated with precision and understanding is imperative for people utilizing this habit of mind. The use of vague and imprecise language within students is common within the school setting.

Children with disabilities present lower rates of intentional communication compared to children without disabilities within both school and home settings (Johnson & Parker, 2013).

According to Daugherty et al. (2001) students of various ages and disabilities will respond more accurately and precisely with extended wait time.

Johnson & Parker (2013) conducted a study utilizing wait-time for three subjects with multiple disabilities. An alternating treatment design was used for the study. Baseline information was gathered across three sessions using zero to one second wait time. The baseline was then compared to six intervention sessions using 5, 10, and 15 second wait time increments. The results showed the using longer wait time increments led to more time to process what was being asked in order to respond with clarity and precision. This strategy lends support in increased learning in school, social interaction, and communication with peers and family. In conclusion, for children in this study their ability to think and communicate with accuracy proved to be positive and effective, allowing less anxiety and pressure in having to answer quickly.

Gathering Data through All Senses

When humans assemble data through the use of different senses, the more interconnection of knowledge permits (Costa & Kallick, 2008, p.30). According to Willis (2007), "the cross referencing of data strengthens data into something that's learned rather than just memorized".

Students with learning disabilities may benefit more with certain sensory learning activities that are geared toward their learning; these strengths may raise their success and achievement within the classroom (Prestia, 2004).

Howard Garner developed the theory that there is more than one way to learn, and that educators must support children in their learning by supporting their strengths and weaknesses (Bransford, 2000, pg. 82). In a study conducted by Al Ghraibeh (2012) on learning attributed to the multiple intelligences theory, findings showed that when these intelligences are tied into teaching methodology, students are more likely to show academic success. Bodily-kinesthetic intelligence is an example of an intelligence that students can use in order to meet an objective or goal within an educational setting. A skill could be dancing, acting, or moving in a certain motion in order to show comprehension or meet an objective.

Creating, Imagining, Innovating

People who are intrinsically motivated find ways to solving problems that are creative, imaginative, and innovating (Costa & Kallick, 2009, p.58). Darling-Hammond (2010) states, "Creativity and innovation may surface when there may be no clear answers, and students have to be OK working with unanswered questions" (p. 188). Students in this position who exhibit this habit of mind tend to accept and push forward. An ability to accept criticism, seek feedback, and refine work continuously, enhances the goal of developing a novel product (Costa & Kallick, 2008, p.31).

Darling-Hammond (2010, p.187) presents an example of putting innovation into action in the classroom. Within a biology class focused on inquiry, creating, and inventing, a project was designed to create an insect repellent that was natural, safe, environmentally friendly, and effective. Through discovery with common spices and other products, a repellent was finally created from this group of students. The theme of innovation was apparent within all subjects in

this secondary school in Singapore. One teacher quoted, "The aim is not only to make students learn why the world works in a certain way, but rather what they can do to improve it" (pg. 187).

Responding with Wonderment and Awe

An exhilarating experience for a teacher occurs when students respond with enthusiasm and passion when learning and mastering material in the classroom (Costa & Kallick, 2008, p. 31). Humans who present this habit of mind love learning, solve and create problems, enjoy figuring out things themselves, and strive in becoming a continuous lifelong learner (Costa & Kallick, 2008, p.31).

Hung, Hwang, & Huang (2012) conducted a study on implementing a project-based digital story telling activity within a science course for elementary students. Participants were given digital cameras to take photos to upload, and later insert subtitles and background in order to create a film on their science topic. Interviews revealed that students enjoyed the learning activity and found it helpful with mastering the topic. Experimental results showed an improvement in learning motivation, attitude, problem solving capability, and achievement from students. The innovative approach to learning allowed students to present their findings in an interesting way and evoked an active learning approach. One student stated, "(We) used to report with PowerPoint; we now have digital storytelling to replace the dull presentations, and have become more confident" (p. 375).

Taking Responsible Risks

Risk takers tend to place themselves in uncertain situations that may result in failure; although they view setbacks as challenging and growth producing (Costa & Kallick, 2008, p.31).

The act of taking educated risks incorporates the intertwining of habits through drawing on past knowledge, and striving for accuracy.

Danielson (2007, pg. 28) stresses the importance of providing a classroom environment that creates a safe place for risk taking. When procedures, routines, instructional methods, and behaviors are cooperative, the presence of a supportive and safe environment is felt.

Finding Humor

According to Costa & Kallick (2008, p. 35) the psychological benefits of humor frees creativity, provokes higher level thinking, elicits new relationships, provides visual imaging, and helps make connections to learning. Socially using humor allows humans to interact with one another from an interesting point of view with the ability to laugh at themselves and others.

Humor is beneficial for learners, both socially and psychologically (Bell, 2009). Using humor within the classroom can provide a congenial atmosphere for learning, forms bonds between students, energizes and raises interest pertaining to material.

In a review by Semrud-Clikeman & Glass (2010), humor is described as a flexible tool and effective communicator for maintaining attention, expressing ideas, communicating difficult information, and helping in the growth of social skills for children with disabilities. Studies within the review supported the fact that many students with learning disabilities could not comprehend humorous material in class. Although, observing other students laughing and responding to humor elicited students with learning disabilities to laugh along with the class.

Thinking Interdependently

When effective collaboration takes place, the group is more intellectually and physically powerful, than any one individual (Costa & Kallick, 2008, p. 36). Sauders-Stewart & Gyles (2012) confer that when students work collaboratively, effectively listen, and share ideas with one another, they embrace the function of professional teamwork environments.

In the 2005 study with Castle, et al., the use of flexible grouping with a broad range of students within a classroom was utilized. Flexible grouping is the process of grouping students based upon their learning needs; with the goal of creating a positive affect and achievement of all students within the group. Within a diverse school in a high needs urban district, the two lowest performing buildings were selected. Student learning was assessed through reading and writing tests; interviews from students on flexible groups; and interviews on contribution and perceptions from teachers were measured. Results showed a positive increase in student learning when flexible grouping was implemented and used increasingly throughout the study. Teachers reported an increase in their students' confidence and understanding of the task being performed. Findings indicate the importance of a school-wide implementation of flexible grouping to be considered in the future.

Remaining Open to Continuous Learning

With a world that is always changing, the ability to acquire critical knowledge and expand one's mind is crucial to acquiring the habits of mind for lifelong learning (Costa & Kallick, 2008, p. 37).

An article by Taylor (2011) discusses the importance for preparing students' for the 21st century world, becoming life-long learners, and reflective thinkers. Educators need to get creative and create paths for learning that exceed past just the knowledge gained within the

classroom. Creating opportunity for students to delve more into reflective practice, and learning how to learn, will provide more of a path towards intentional learning. The goal of continuous learning in life, can direct students with the "what", and also the "so what", towards bigger goals in life after graduation.

Integrating Habits of Mind into Course Curriculum

Richards (2013) coined the term curriculum as an overall plan for a course, including how the content will be altered into a design for teaching and learning in order to gain desired learning outcomes and achievement. Curriculum external aspects, such as students' habits of mind, are imperative in order for learning to occur in the first place. According to Wehmeyer, Field, Doren, Jones, & Mason (2004), students with learning disabilities who are self-determined are more enhanced to access the general education curriculum with success. For students with learning disabilities, skills and strategies are imperative in order to be successful within a general education curriculum (Suk-Hyang, Wehmeyer, Palmer, Soukup, & Little, 2008). According to Martin (2001, p. 131), teaching thinking skills and habits of mind to students with behavioral and learning disabilities is beneficial in promoting higher-level cognitive strategies. In addition, Marzano (2005, p.83) considers that when attitudes and preconceptions are conducive to learning within a curriculum, habits of mind form an additional positive aspect for learning and must always be watchfully considered within the learning process. In a general curriculum the instruction and reinforcement of thinking skills to encourage positive and productive behaviors when faced with a problem have become an integral part of many schools educational philosophy (Burgess, 2012). In developing a habits of mind based curriculum, the overall goal is to create a transdisciplinary model that allows students to internalize the habits of mind, use content as a vehicle to support and develop desired dispositions, and formulate an internal

compass to guide students' thoughts, decisions, and actions in regard to the learning culture of a school or classroom (Costa & Kallick, 2009, p.3).

Transdisciplinary

According to Costa & Kallick (2009, p.3), their meaning of the term *transdisciplinary* has nothing to do with particular subject matter, instead it focuses on the habits of mind being applied across every subject area. Whether an educator is teaching English, foreign language, or math, the habits of mind of a student can be utilized.

Dispositions

In a review by Villegas (2007), he defines in his own words the term *disposition* as "tendencies for individuals to act in a particular manner under particular circumstances" (p. 371). This definition for an individual is broad and can pertain to various situations. In the case of teachers, their ability to model and promote desired dispositions that pertain to school culture and curriculum is imperative. Disposition in relation to educators can be defined as:

> The professional virtues, qualities, and habits of mind and behavior
>
> held and developed by teachers on the basis of their knowledge, understanding,
>
> and commitments to students, families, their colleagues, and communities. Such
>
> dispositions of character, intellect, and care-will be manifest in practice, will
>
> require sophisticated judgment in application, and will underpin teachers'
>
> fundamental commitments to education in a democratic society, such as the
>
> responsibility to set high standards for all children, harbor profound concern for
>
> each individual child, and strive for a classroom and school environment of high
>
> intellectual and moral quality (Sockett, 2006, p. 23).

When teachers display good disposition and character in the classroom, their modeling of this behavior in turn is believed to have a direct effect on students (Osguthorpe, 2008). One of the most influential ways students learn the habits of mind is through teacher modeling (Costa & Kallick, 2009, p.3).

Internal Compass

Students' internalization and utilization of the habits of mind, as an internal compass to guide their thoughts, actions, and decisions throughout school learning and daily life is the overall goal to be achieved (Costa & Kallick, 2009, p.324). Habits of mind are never fully mastered, instead they should become practiced and refined on a consistent basis. When they are "habituated" in daily life and with automaticity and without prompting, the true meaning of an internal compass is defined (Anderson etc. al, 2008).

Subject Curriculum Habits of Mind

Through instruction and practice with the habits of mind within subject curriculum, students are taught and guided through metacognitive thinking processes with the goal of acquiring dispositions as independent problems solvers (Sauders-Stewart, Gyles, & Shore, 2012). In addition, when habits of mind are considered an integral part of a school or classroom culture, explicitly integrating the habits into delivery of curriculum, lessons, and activities, is imperative (Costa & Kallick, 2009, p.45).

Science

In an article by Leager (2005), focus on the fostering of habits of mind within a science class and the overall learning process through this style are reviewed. The teacher of a fourth grade science class describes the implementation of the scientific habits of mind and the

dispositions, attitudes, and ways of thinking and acting of her students. Many habits of mind are displayed throughout activities and instruction. Within a lesson on wetlands and their inhabitants, many habits are observed through various settings within the classroom. Instances within the lesson plan that display the habits of mind being utilized are as shown below:

"Amid several stares of awe and wonder, some students suggest that the shelled creature may be a baby turtle. Others allege the creature to be a snail. One student proposes that the creature cannot be a turtle because it lacks legs and a head. This statement sends ripple of chatter though the class as other students begin to share their own thinking." (p.10)

From the statement above, the habits of mind exemplified are: responding with wonderment and awe, thinking interdependently, questioning and problem solving, and taking responsible risks. Throughout the rest of the article the teacher fosters many habits of mind through strategies and modeling of dispositions.

Mathematics

According to the Conference Board of Mathematical Sciences (2001: 2), it is recommended that math education teachers develop habits of minds of mathematical thinkers within their courses. Incorporation of mathematical habits of mind is equally needed in the vigorous society of today's world just as is the demand for thinking in depth and thoughtfulness of students (Gordon, 2011). According to Gordon (2011), when habits of mind are engendered properly within mathematics course instruction, students are enabled to think deeper and with more facility, unlike procedural understanding which promote limited understanding.

Writing

According to the *National Council of Teachers of English* (2011), preparing students for the writing demands of postsecondary education, and writing in their possible future careers, is a pertinent skill. When students are given the opportunity to write across the curriculum from elementary school on up, the better their writing becomes. A new framework emphasizes what teachers and schools can do to enhance writing skills across all educational levels. The reinforcement and embedding of habits of mind within writing promote flexibility and versatility. Habits of importance within writing, similar to Costa & Kallicks, are: curiosity, openness, engagement, creativity, persistence, responsibility, flexibility, and metacognition.

ESL Reading

Shu Hong Bee, et al. (2013) conducted a case study examining English as a Second Language (ESL) learners and their ability to employ the habits of mind through collaborative reading. Through purposeful sampling, six 12-year old students within a primary rural school were selected based on various criteria, one being able to converse in the English language fairly well. In five separate reading sessions, students all sat facing one another while reading a text silently to themselves. Once all were finished, each student selected an envelope containing a question pertaining to the reading. Taking turns every child read their question out loud and shared their ideas and answers with the group. Discussions and answers to the questions were discussed as a group without any intervention from the researcher. Through field notes, audio, video, interviews, and use of a habits of mind checklist, collection of data was triangulated for outcomes. Through analysis of the data it was found that students engaged in all of the habits of mind throughout the reading sessions. The habits most frequently observed were: questioning and posing problems, thinking and communicating with clarity and precision, and thinking flexibly. Many habits of mind were found to be utilized in clusters, meaning that a couple of the

habits would be used together, or possibly lead from one habit to another during the sessions. The findings suggest that through group discussion and habits of mind, the building of knowledge can be enhanced when effectively utilized within an ESL reading classroom.

Best Practices with Teaching Habits of Mind to Students with a Learning Disability

Instructional approaches and strategies for teaching habits of mind to students with a learning disability can vary according to curriculum and instructor. Costa and Kallick (2008) present many ideas for incorporating the habits into lessons and subject areas.

Thinking Time

According to Johnson & Parker (2013) children with profound cognitive disabilities respond more accurately to others with extended wait time. For students with learning disabilities, the use of consistent time delay between questioning has been proven effective in teaching students at various levels and ages (Daugherty, Grisham-Brown, & Hemmeter, 2001).

In the Rowe (1986) review on wait time, the importance of extending the thinking time of students and their response allowed for increasingly more logical and knowledgeable responses. In addition, verbal language in response to questions allowed for more articulate and thoughtful ideas expressed. Implications for students with a learning disability deemed extended wait time in responding to questions valuable. Due to fundamental processing of students with a learning disability, protracting the time to five seconds was found effective.

According to Costa & Kallick (2009, p. 24) the idea of thinking time allows students to simultaneously maintain focus pertaining to questions and utilize certain habits of mind. The significant aspect of this activity focuses on the pauses between asking a question, calling on a

student to answer, calling on another student to reflect on the answer, and so on through the process. Overall the goals are to keep students actively engaged and listening to others. The habits of mind activated within this activity and through the use of thinking time are: listening with empathy, accessing past knowledge for reflection, and exhibiting precision and accuracy in creating a response.

Habits of Mind "Inside the Text"

Costa & Kallick (2009, p. 84) present the idea of Kathleen C. Reilly, an English teacher of seniors. Kathleen's goal was to have her Advanced Writing Seminar students analyze a novel in terms of the habits of mind. In reading *The Great Gatsby*, students recognized the characters behaviors in relation to the habits of mind. Throughout the novel, discussions deepened about the intelligent behaviors the characters could have used, if there would have been a tragic outcome had behaviors been turned, connections to personal stories, and eliciting ideas for writing assignments and essays. In addition, students were also gaining familiarity with the Habits of Mind vocabulary and meaning.

Vocabulary

The development of the habits of mind must incorporate an individual to have both inner and expressive language (Costa & Kallick, 2008, p. 118). Developing both languages requires the ability to utilize vocabulary to assist in communication. In the school setting, vocabulary plays a crucial role in a child's ability in comprehending literature and communication with others (Foil & Alber, 2003). Acquiring a broad vocabulary can enhance communication skills in order to transfer messages with clarity and precision (Johnson, 2001). According to Burns, et al.

(1999), no single method of teaching vocabulary is deemed superior; students achieve best when a variety of methods are utilized.

Costa & Kallick, (2008, p. 118) describe the importance of becoming familiar with the habits of mind vocabulary. Using the language and terminology associated with the habits of mind, students build a connection and reference to the actions and meanings for each habit. One activity for constructing a habits of mind vocabulary is by way of the "word splash" activity. Lipton & Wellman (1999) coin a "word splash" as a compilation of phrases, terms, and synonyms that express similar meaning to a particular word. As a class students list as many synonyms and phrases related to each habit of mind. Creating this list allows students to think flexibly, take responsible risks, and persist by means of communicating with peers and teacher.

Instructing students to use specific terminology and enhancing their development of vocabulary through certain skills, the more inclined they will be to use those skills (Astington & Olson, 1990; Langer, 1997). Exhibiting humor through verbal playfulness and interaction with others can be a strategy for acquiring an abounding vocabulary (Costa & Kallick, 2008, p. 35). According to Berk (2000), "laughter creates biochemical changes in the body that may enhance one's ability to concentrate and learn" (p. 153). In the classroom environment, when building humor into lesson plans, sharing in laughing, reading funny comics, and conveying these situations to one or more habits of mind, are a few examples of incorporating the habit of humor (Costa & Kallick, 2008, p.62). Vocabulary comprehension in connection with humor can create an opportunity for effective learning.

In the 2003 study with Aria & Tracy, four seventh grade reading classes consisting of 84 students participated to examine the effects of instruction using humor in vocabulary lessons and

students performance. Two reading classes compromised the control group, and two classes represented the experimental. For the control group, vocabulary lessons and worksheets were based off of the teachers guide. Experimental group received humor enhanced lessons, texts, and instruction using the same vocabulary words. For each group of vocabulary the same assessment was given each week. Results found that humor-laced vocabulary instruction statistically showed greater comprehension of the students when compared to traditional instruction.

Conclusion

The literature indicates positive outcomes and dispositions encompassed around the habits of mind within educational practices and curriculum. Costa & Kallick, 2009 (p. 59) states "the Habits of Mind is a lifelong journey, a journey of a growing capacity to be more skillful and strategic as we use the habits." When teaching students with learning disabilities, their ability to comprehend and understand material lacks compared to students without learning disabilities (Cobb-Morocco, 2001). These habits offer a plethora of opportunities to be used within the special education classroom setting.

Review of the literature presented the term "Habits of Mind" as used loosely and not directly geared towards Costa & Kallick's habits, although all mirror many effective thinking habits seen throughout each study and journal. According to Perkins et al. (2000), other scholars have created dispositions and habits that may differ in terminology from Costa & Kallick's habits, although they are more similar than dissimilar in spirit, with all of them reflecting tendencies of all sixteen habits.

The above quote from Costa & Kallick (2009) reiterates the need for more research on the proliferation of habits and how to transfer meaning to students with learning disabilities. As

students become independent learners, their ability to learn and understand their successful habits becomes natural (Aull & Shore, 2008). For students with learning disabilities, the goal for increasing their knowledge, understanding, and ability to internalize Costa & Kallick's sixteen Habits of Mind plays a significant role in their success to becoming a lifelong learner. The questions that were answered were: What are students with learning disabilities' perceptions of Costa & Kallick's Habits of Mind in connection to learning within a resource room subject area? What are special education teachers' perceptions of their teaching practice and student learning in to Costa & Kallick's Habits of Mind within their resource classroom subject area? Is there a difference for students with learning disabilities and special education teachers of a subject area resource room in the application and preference of certain Habits of Mind used over another?

Chapter 3

Research Design/Methodology

Introduction

The purpose of this mixed method research study was to explore the development of Costa & Kallick's Habits of Mind within freshmen and sophomore students with a learning disability and special education teachers in an academic setting. To determine the changing lens of learning and thinking through Costa & Kallick's Habits of Mind, teachers and students rated their growth and understanding of the habits from beginning to end through a quantitative measure. From a qualitative standpoint, students' and teachers' perceptions about their learning and internalization of Costa & Kallick's Habits of Mind were examined through different means.

The lending of multiple methods throughout this study allowed opportunity for a wealth of information to be acquired. By completely examining the effects of growth and understanding of Costa & Kallick's Habits of Mind, evidence was gained from both qualitative and quantitative measures. Throughout the study, the goal of special education teachers integrating features of Costa & Kallick's Habits of Mind within activities and discussions served as a tool to gain students' perceptions and viewpoints through various means, allowing qualitative methods to be used more extensively. The lens of research required was a parallel mixed method design. According to Teddlie and Tashakkori, a parallel mixed method design consists of "at least two parallel and relatively independent strands; one with QUAL questions, data collection, and analysis techniques and the other with QUAN questions, data collections, and analysis techniques" (2009, p. 152). Results from both qualitative and quantitative research were integrated to form a meta-inference when the study was completed (Teddlie & Tashakkori, 2009, p. 152). According to Onwuegbuzie and Johnson (2006), a meta-inference is a conclusion drawn

from the integration of inferences made from both quantitative and qualitative findings and data collected within a study.

Triangulation within this study assisted in gaining the support of the researcher's theory that through developing Costa & Kallick's Habits of Mind within students with a learning disability and special education teachers it not only improved their development and application of dispositions but displayed support from the perceptions and viewpoints.

Research Questions

How does providing opportunities to internalize and develop Costa & Kallick's Habits of Mind affect and influence personal dispositions in the classroom of students with learning disabilities and special education resource room teachers?

1. **Qualitative.**

   (1) What are students with learning disabilities' perceptions of Costa & Kallick's Habits of Mind in connection to learning within a resource room subject area?

   (2) What are special education teachers' perceptions of their teaching practice and student learning in relation to Costa & Kallick's Habits of Mind within their resource classroom subject area?

2. **Quantitative.**

   Is there a difference for students with learning disabilities and special education teachers of a subject area resource room in the application and preference of certain Habits of Mind used over another?

Perspective of the Research

With a low population of students who receive resource room services at the site of study, a mixed method, action research phenomenological study was used. Creswell (2007) describes a

phenomenological study as "describing the meaning for several individuals of their lived experiences of a concept or a phenomenon" (p.57). Within a phenomenological study describing what participants have in common through experience is of essence (Creswell, 2007). Moustakas (1994) emphasizes the core of the description should be the "what" and "how" of the experience. According to Creswell (1998) incorporating several individuals with their common experiences assists the researcher in making meaning of a phenomenon. Research conducted by Cobb-Morocco (2001) found that students with learning disabilities lack comprehension and skills when compared to students without a learning disability. Incorporating and devising ways for students with learning disabilities to internalize strategies, dispositions, and habits for learning, as their non-learning disabled peers' exhibit, is crucial. This maintains the researcher's rationale for using a phenomenological study.

In the study many forms of narrative information was utilized along with a minimal amount of numerical data to add support for findings. The need for a mixed methods investigation was rendered in order to develop a better understanding for Costa & Kallick's Habits of Mind phenomena (Greene, 2007). Due to the researcher's developing, creating, and involvement in an 8-week intervention on the Habits of Mind, an Action Research plan was fit for this study.

Researcher evaluated a rating scale across resource room classes, along with interviewing and journaling of students and teachers about their perspectives on Costa & Kallick's Habits of Mind philosophy. The addition of focus groups throughout the study elicited further clarification and understanding of the habits for students and teachers. As the study advanced progressively more intervention, and students and teachers development of dispositions increased pertaining to Costa & Kallick's Habits of Mind.

Context of the Study

This public, blue ribbon high school constitutes its own regional school district. The high school rests on 72 acres in the heart of a suburban northeastern community and has a campus like setting. The total estimated population of the communities comprising the regional area covered by the high school is approximately 48,680. The community surrounding the public high school is considered relatively homogeneous and is comprised of mostly white middle class families. Furthermore, the overall community is also considered quite affluent. For instance, only 5.3% of the school's students qualify for free or reduced priced meals. Nevertheless, some townships are less wealthy than others, with rural areas that are still used for farming.

The high school serves 3,107 students, with 52% male and 48% female, from grade nine through twelve. The ratio of staff to students averages 1:8; administrators to students averages 1:268. Student ethnic backgrounds are approximately as followed: 86% White (Non-Hispanic); 2.6% Black (Non-Hispanic); 5.5% Hispanic; 5.6% Asian; 0.1% American Indian; and 0.2% of two or more races. Economically disadvantaged students compromise 7.4% of students. Limited English proficient students consist of 0.6%. Additionally, the district's per pupil expenditure is $19,495 to accommodate students, and the school employs 366 full time staff. There are 22 administrators, 250 classroom teachers, 48 special resource teachers, 16 paraprofessionals, and 45 support staff. It provides a full range of services appropriate to regular and special education students in grades 9 through 12, and it operates on 84-minute blocks of classroom instruction, four times per day. The district is changing next 2014-2015 school year to an AB schedule. In this rigorous and comprehensive educational institution, the academic program supports the district vision of "Performance excellence for everyone".

Recognized as one of the renowned special education programs in the state, the department serves approximately 500 students. Students classified with a learning disability all have an Individualized Education Program (IEP), which is written and supported by their case manager. Course options offered for students with an IEP consists of mainstream environment, in-class support setting (ICS), resource room, learning center, and life skills program. Common curriculums for all courses are aligned in meeting objectives and standards. Special education courses are aligned to the best of its ability in order to prepare students for state testing purposes. High School Proficiency Assessment (HSPA) is the state test conducted for all 11th grade students. A sophomore diagnostic is given to all 10th grade students in order to prepare for the HSPA. Last school year 2014-2015, the HSPA was eliminated in all districts, and the form of state assessment conducted is through the Partnership for Assessment of Readiness for College and Careers (PARCC). All students with a learning disability are mandated to take the assessment.

Participants

Approximately 44 students and 4 special education teachers from an urban school in the Northeastern part of the United States were invited to participate in this study. For the purpose of this study a convenience sampling strategy was utilized for students. Teddlie & Tashakkori (2009) describe convenience sampling as selecting samples that may not be the most appropriate for a study yet provide accessibility and willingness to participate (p.170). The selection of convenience sampling gave the researcher a safety net in case some of the students choose not to participate. Student participants who participated in the study had to meet these certain criteria:

- Attend the research site school as a freshman or sophomore
- Range in the age of 14-16 years old

- Possess an IEP

- Enrolled in one of the following resource room courses: English, history, math, science

A purposive sampling technique was followed for the selection of special education teachers in this study. Teddlie & Tashakkori (2009) describe purposive sampling as selecting particular people or groups that can provide more information for a specific purpose (p.170). All special education teachers selected to participate in the study were working towards developing the habits of mind in their classes through either a personal professional development goal or working towards the special education department goal. If selected teachers chose not to participate in the study there was another group of teachers to invite. Special education teachers invited to participate in the study needed to meet these criteria guidelines:

- Highly qualified in their content area

- Possess a Teacher of the Handicap license

- Employed by the researchers school district

- Teach one of the following resource room courses: English, history, math, science

The researcher's selection of students and teachers as participants in the study had to do with the specific interest in Costa & Kallick's Habits of Mind as they relate to teaching and learning within the classroom. Through researcher's experience within the classroom, students with learning disabilities often lack successful habits and skills in order to take control of their education, and in turn do not recognize their full potential. Within this study the researcher wanted students and teachers to work together to internalize and reflect upon Costa & Kallick's Habits of Mind, and develop strategies that support them in becoming successful learners in and outside of school, and to build an internal compass possessing some, if not all, of the habits.

Consent and Confidentiality Procedures

District and administration approval was approved. Student and parent consent was obtained within the school setting. Parents and students were contacted in October of school the school year through email, phone call and in a letter stating the procedure, reasoning, and explaining the study. If parents were in agreement they signed the consent form (See Appendix A). Students received an assent form to be signed if they were in agreement to participate in the study (Appendix B). The assent form was written in a manner that was comprehensible and read aloud to all students in order to make sure they understood. The signed consent and assent form was returned by December 1st of the 2014-2015 school year. Consent from both parties allowed students to be interviewed, participate in focus groups, and be recorded during the study.

Teachers were contacted in September through email explaining the study and procedure. If teachers agreed to participate they signed a teacher consent form (Appendix C). The consent form needed to be signed and returned by December 1, 2014. Once the consent form was completed and signed teachers were contacted about the introductory session for study.

Role of Researcher

Conducting action research within the school where the researcher currently works, allowed for observing and recording of relevant data within the classroom. According to Parsons & Brown (2002) action research consists of:

> … a form of investigation designed for use by teachers to attempt to solve problems and improve professional practices in their own classrooms. It involves systematic observations and data collection which can then be used by the practitioner researcher in reflection, decision-making and the development of more effective classroom strategies (p. 48).

The researcher is a special education teacher at the high school level. One of the special education department goals during the study and for the future of the school is to integrate habits of mind into daily instruction. Having experience with various teaching methods utilized throughout the years in the school, and having team taught with multiple teachers, the researcher has familiarity with improving content and strategies at different learning levels across the Spanish, English, and study skills curriculum. Interviewing, gathering reflections, and data collection of students and teachers in regard to their learning and development of Costa & Kallick's Habits of Mind thinking in the classroom helped support the researcher in adapting to meet the goals of the study. Based upon weekly journal reflections of students and teachers, the researcher had the ability to dig deeper on their thinking and metacognition of the habits.

According to Mills (2003, p.10) the primary goal of action research wa to create "educational change that enhances the lives of children". Three different forms of action research exist: individual teacher or practitioner research; collaborative research; and schoolwide action research (Calhoun, 1994). For the purpose of this study, individual teacher and practitioner research was utilized in order to find answers to researcher's questions about a Habits of Mind classroom. The many roles of the researcher will varied throughout the study.

Time Frame

Once the approval from the high school, supervisor, consent from both parents and students, and accepted IRB consent, was completed the study began on December 8, of the 2014-2015 school year. Data analysis began in March 2015. Findings and results, summary, and discussion was completed by November 2015.

Data Collection

Methods

The data collection of this proposed phenomenological, action research parallel mixed method study began with the researcher presenting Costa & Kallick's Habits of Mind to teachers and students within different settings. At the start of the study, the researcher presented Costa & Kallick's Habits of Mind to teachers and students in different capacities. For special education teachers, the researcher delivered a presentation on Costa & Kallick's Habits of Mind and presented different teaching strategies and examples for using in the classroom. This took place one time during November and lasted about one hour. The time was dedicated to the presentation and provided opportunity for teachers to ask questions about the study. At this point the researcher felt confident in the special education teachers' ability to follow through with the study effectively. All information was clear to the teachers hence no follow up meeting was necessary. Teachers agreed to participate and they were provided with a link to complete the first Habits of Mind Self Rating Scale on Survey Monkey. The procedure for students involved in the study incorporated an hour long introductory presentation on Costa & Kallick's Habits of Mind in relation to learning and building on dispositions within the school environment. This took place in November with all four of the resource room classes involved in the study. The researcher allowed time at the end of the presentation for questions about Costa & Kallick's Habits of Mind and the study procedures. Once all questions were answered the researcher handed out consent and assent forms to be signed if students were willing to participate in the study. Once all students submitted their consent and assent forms, they were sent a SurveyMonkey link from the researcher in order to complete the Habits of Mind Self Rating Scale on the first day of the study. During the student presentation in the library the resource room teachers observed to obtain the information from the students' point of view. Both sessions

gave a different perspective in relation to the student and teacher, and served as the groundwork for the study.

The next 8-weeks will provide opportunities for students and teachers to utilize Costa & Kallick's Habits of Mind within the resource classroom. Throughout this 8-week intervention, students and teachers will be participating in interviews, focus groups, reflective journal prompts, and completing a weekly activity that centers around using some of the habits. The mixed method data obtained will be integrated into the results, analysis, findings, and discussion of the research paper.

Qualitative Data

Individual Student and Teacher Interviews

Interviews were conducted as needed throughout the study. In regard to the study "as needed" meant that the researcher felt that more information was required from a student or teacher in relation to their reflective journals, focus group discussions, rating scales or from observations in relation to Costa & Kallick's Habits of Mind. If the researcher found intriguing reflections that deemed more explanation, an interview was scheduled. An interview allowed opportunity for further clarification of ideas, questioning, and ability to gather more rich data through a formal approach (Appendix D). Marshall & Rossman (2011) describe an interview as a strategy to gain in-depth meaning and understanding of participants experience through their own words (p. 93). For teacher participants the interviews were scheduled at a time that was convenient for them, usually completed during their prep time or after school. Interviews with teachers lasted approximately 15 minutes, depending on the amount of information that was discussed. The interview questions were based around teachers' reflective journals in regard to their teaching, utilizing the habits within activities in the classroom, and about their observations

of students. Giving teachers an opportunity to verbally express their reflections added validity and reliability to the study.

Within the study students were interviewed based upon their reflective journal writing, researchers' observation of their interactions within focus groups, and about their rating and ranking scales. During interviews it was imperative that the researcher conveyed an attitude that the participants' ideas and views were valuable and important to the study (Marshall & Rossman, 2001, p. 145). Only selective students were interviewed based upon researchers intrigue or curiosity of their thinking and gathered information. The importance of interviews with students allowed for them to extend and explain about their thinking, reflections, thoughts, and understanding of Costa & Kallick's Habits of Mind in relation to the study. Interviews lasted approximately 15 minutes, although extra time was provided if students wanted to continue. Students selected to be interviewed were contacted through email or in person by the researcher. A convenient interview time for both the researcher and student was set. All interviews took place Monday through Thursday or during tutorial. Tutorial at the research site is time set aside after school for teacher-student meetings, extra support in classes, clubs and review. Interviews were conducted within a classroom on the research site and did not interfere with instructional time.

All interviews were audio recorded and transcribed on to the researcher's personal, password protected computer. Any identifying information from transcripts were deleted and replaced with pseudonyms. Student signed assent forms gave permission to be interviewed.

Focus Groups

Within the study, the significance of a focus group was essential for gaining student information about Costa & Kallick's Habits of Mind through interaction. Krueger and Casey

(2000) defined a focus group as "a carefully planned series of discussions designed to obtain

perceptions on a defined area of interest in a permissive, non-threatening environment" (p.5).

The significance of a focus group in this study allowed students to be able to listen to one

another about their input, perceptions, and understanding about the habits. The intention of

allowing students to discuss Costa & Kallick's Habits of Mind through guiding questions evoked

interest and engrossed everyone into the conversations. Questions were devised throughout the

study based upon information gathered through journals, interviews, and in relation to the

research questions (See Appendix E for initial focus group questions). The structure of questions

was similar each week.

All student participants in the study signed a consent and assent form that explained the

guidelines and confidentiality involved within focus groups. Focus groups met three times

throughout the study with the researcher. As a token of appreciation the researcher provided

pizza for each student participant that attended the focus group session. Teacher participants

were contacted each week before the scheduled session and asked to select a student participant

to represent their class. It was preferred to have a different student representative each session in

order to gain different insights and perspectives. For each session a different group of four

students that consisted of one participant from English, history, science, and math resource

rooms attended. Students listened to their peers thoughts and perspectives on utilizing the habits

within their class. The sessions were held on three Fridays during unit lunch for thirty-minutes in

a consistent classroom location. All three sessions were audio recorded by the researcher and

summarized on to the researcher's personal, password protected computer. Any identifying

information from transcripts were deleted and replaced with pseudonyms.

Reflective Student and Teacher Journals

Reflective journal writing supported the study through providing rich and descriptive personal insight in regard to participants' perspectives of Costa & Kallick's Habits of Mind in relation to the research questions. Student reflection took place in the form of individual weekly journals responding to two prompts: "Explain a habit of mind that you feel you demonstrated in your class this past week", and "Explain a habit of mind that you feel you demonstrated outside of your class this week". These two prompts allowed students an opportunity to write and reflect on a variety of Costa and Kallick's Habits Mind throughout the study in relation to their resource room subject area and outside of the classroom. The ability for students to learn a habit in the classroom setting and then carry it over into their life outside of school was imperative to the learning process. Once a week at the teachers' discretion, 15 minutes were devoted in class for students to reflect on Costa & Kallick's Habits of Mind in relation to the prompts. Students were obligated to use the full 15 minutes to type their responses and perspectives and not stop working until the time is up. The reasoning for making the obligation of using the full 15 minutes gave students time to focus and delegate concentration on their ideas. The writing was shared with only the researcher on Google Documents at the researcher's personal university email. Every classroom used in the study had computers for each student to utilize. Students who did not participate in the study completed the journaling and shared with the teacher. Being that the habits of mind was considered a special education department goal for teachers and implemented it into their practice, it was imperative that all students took part in the writing.

As part of agreeing to participate, teacher participants agreed to reflect once a week on Costa & Kallick's Habits of Mind in relation to their teaching and perceived student understanding of the dispositions. Special education teachers weekly reflection focused on one prompt pertaining to their teaching practice: "Explain what habits of mind you feel were

exhibited by your students and how your teaching with the habits supported your students learning". This allowed an opportunity for teachers to write reflectively about what they observed, thought, and felt in connection to teaching with Costa & Kallick's Habits of Mind. Teachers had the freedom to journal anytime throughout the week and share with the researcher. Teachers had the option to send their document through their personal email or school email. In addition, teachers had the choice to send it through a word document or through Google Docs. All journal responses were sent to the researcher's personal university email. Although there was no writing length requirement, it was important that teachers were encouraged to write as much as they felt appropriately communicates their ideas and perspectives. This form of journaling allowed teachers to describe their thought process when internalizing a certain habit, make connections, analyze their thinking, and discuss how using a habit had or could have led to success in their subject area.

The role of the researcher was to review both teacher and student weekly reflections and find if further clarification was deemed necessary in the form of an interview. Confidentiality was maintained with both student and teacher participant interviews regarding journal ideas.

Quantitative Data

This mixed method study included quantitative, descriptive-data collection to increase support and detail to Costa & Kallick's Habits of Mind focus. Utilizing a parallel mixed design of quantitative and qualitative data allowed for various revelations to show through the study. According to Teddie & Tashakkori (2009) data can occur through conceptual, experiential, and inferential stages with either some time lapse or simultaneously. For the purpose of this study, data was collected simultaneously.

The question that triggered the quantitative design of this study asks: Is there a difference for students with learning disabilities and special education teachers of a subject area resource room in the application and preference of certain Habits of Mind used over another?

The overarching question for this mixed method study asks: How does providing opportunities to internalize and develop Costa & Kallick's Habits of Mind affect and influence personal dispositions in the classroom of students with learning disabilities and special education resource room teachers?

For the quantitative part of this study, 44 (N=44) student participants and 4 (N=4) teacher participants were invited to participate in this proposed research. The criterion for student participation included:

- Attend the research site school as a freshman or sophomore

- Range in the age of 14-16 years old

- Possess an IEP

- Enrolled in one of the following resource room courses: English, history, math, science

The criterion for teacher participation included the following:

- Highly qualified in their content area

- Possess a Teacher of the Handicap license

- Employed by the researchers school district

- Teach one of the following resource room courses: English, history, math, science

Consent and assent forms were collected before the start of the study from both teachers and students in regard to the methods of measurement below.

Student and Teacher Self Report Measure: Habits of Mind Inventory

In the study, two absolutely identical evaluation tools were administered to students and teachers though a pre- and posttest format (See Appendix F). During the first week of study students were administered a Habits of Mind Inventory (Costa & Kallick, 2008), a student rating scale based on their knowledge and dispositions pertaining to each habit. This occurred after the introduction presentation of Costa & Kallick's Habits of Mind and the description of the study that all students experienced. After all consent and assent forms were returned the rating scale was administered through SurveyMonkey on the first day of the study. The researcher visited all *four resource room subject area classrooms* during the first day of the study to clarify, explain, and answer any questions from the students. The inventory scale took approximately 20 minutes to complete. Students rated each of Costa & Kallick's Habits of Mind on a scale of one to ten. On the scale of 0-10 (0 being the lowest and 10 being the highest) students selected the number that best represented their feelings on how they behave towards that habit. Below each habit category, students had an opportunity to provide evidence of how they presented that habit of mind in learning and throughout their life. This portion encouraged students to give more detail about their understanding of that particular habit. During the last week of the study the researcher sent all students the identical Habits of Mind Inventory scale through SurveyMonkey. The researcher visited with each class to answer any questions about the survey. Students had a week to complete the inventory. Giving students the entire week allowed them time to reflect and think about their change and progress in relation to each habit. Having all students complete the inventory scale in the beginning of the study and again during the last week gave the researcher an understanding of students' building of knowledge on the habits. Students who did not participate in the study completed the inventory scale since it was part of the special education department and student goals.

Each Habit of Mind was measured collectively on all students' ratings in the study. Individual student selections was not recorded or used for any purpose except to form an overall student rating average of the habits. Both pre and post averages for each habit of mind was compared at the end of the study in order to find a difference in students' perceptions and ratings throughout the study. The researcher's goal was to find which habits increased, stayed the same, or decreased from the beginning of the study to the end. The Costa & Kallick's Habits of Mind Inventory was documented and transferred over to a chart that presented weighted averages for each habit. At the end of the study the information was calculated into a table that showed the difference in ratings from beginning to end of the intervention. An aggregate of all students ratings for each habit of mind was combined together to form a weighted average. The weighted averages for each habit was presented on the table and later transferred over to a bar graph to compare the ratings from beginning to the end of the study. The researcher analyzed the data from the bar graph to find growth of the habits throughout the study.

All special education teachers participating in the study completed an identical Habits of Mind Inventory Scale as the students. All teachers completed the Habits of Mind Inventory Scale on SurveyMonkey. The inventory scale took approximately 20 minutes to complete. Teachers rated each of Costa & Kallick's Habits of Mind on a scale of zero to ten. On a scale of 0-10 (0 being the lowest and 10 being the highest) teachers selected the number that best represented their feelings on how they behave towards that habit. Below each habit category, teachers had an opportunity to provide evidence of how they presented that habit of mind in teaching and within their classroom. This portion encouraged teachers to give more detail about their understanding of that particular habit. During the final week of the study the researcher sent teachers a SurveyMonkey link to complete an identical Habits of Mind Inventory. Teachers had the week to

complete the inventory. Giving teachers the whole week allowed them time to reflect, think, and discuss how each habit connected to their pedagogy in the classroom. Having all teachers complete the inventory scale in the beginning of the study and again during the last week gave the researcher an understanding of teachers' building of knowledge on the habits. The researcher sent a follow up email later in the final week of the study reminding both students and teachers to complete the inventory.

Each Habit of Mind was measured based on all teachers' ratings in the study. Individual teacher selections was not recorded or used for any purpose except to form an overall teacher rating average of the habits used within teaching. Both pre and post averages for each habit of mind was compared at the end of the study in order to find a difference in teachers' rating of each habit throughout the study. The researcher's goal was to find which habits increased, stayed the same, or decreased from the beginning of the study to the end. The Costa & Kallick's Habits of Mind Inventory was documented and transferred over to a chart that presented averages for each habit. At the end of the study the information was calculated into a graph that showed the difference in ratings from beginning to end of the intervention. An aggregate of all teachers ratings for each habit of mind was combined together to form a weighted average. The averages for each habit were presented on the table and later transferred over to a bar graph that compared the ratings from beginning to the end of the study. The researcher analyzed the data from the bar graph to find the growth of the habits throughout the study.

Trustworthiness

The focus of trustworthiness in qualitative research relates to how well the researcher provides evidence of their descriptions and analysis according to the reality of the situation and the individuals studied (Bloomberg & Volpe, 2008, p. 77). Within the research, the constructs of

dependability, credibility, confirmability, and transferability all helped ensure that the standards

of trustworthiness were met (Lincoln and Guba, 1985). The researcher took each construct into

consideration throughout the study. To account for credibility the researcher incorporated

multiple data collections across the study, otherwise recognized as triangulation. Triangulation

for purposes of this study relied on more than one source of data for comparison of participant

responses (Mills, 2003). The utilized qualitative measures of interviews, focus groups, and

reflective journaling all contributed to an array of descriptive information. In terms of

confirmability, making sure there was neutrality and no researcher bias, focus groups were

recorded audibly throughout the study in order to keep track of progression, dates of meetings,

and accuracy of data. In addition, a willing and interested co-worker enlisted to conduct personal

peer debriefing to assist in researchers understanding and reflecting upon the research process

and thoughts. This individual reviewed journal prompts, interview questions, and assisted in

focus group sessions with recording. In the 2013-2014 school year, this individual incorporated

and piloted Costa & Kallick's Habits of Mind in a weekly journal assignment into their

classroom. Dependability through an audit trail and member checks of transcribed interviews

was disclosed to students to check for accuracy. Making sure participants could recognize, repeat,

and show consistency in their answers was a critical component of trustworthiness. In a broader

display of trustworthiness, a reflective journal monitored and reinforced researcher to describe in

detail the information gathered. By incorporating a personal daily reflexive journal the researcher

had the ability to record a variety of information about self, and methodological (Teddlie &

Tashakkori, 2009, p. 297). The transferability of the research gathered to the study implied that

the findings lended useful information to be used across similar situations within education and

in personal dispositions (Marshall & Rossman, 2011, p.252).

Validity and Inference Quality

Within this study, validity of the research was associated with using the same group of students and teachers. All students and teachers in the study had an equal opportunity to engage and incorporate Costa & Kallick's Habits of Mind into their daily classroom learning and/or teaching. Positive perceptions, increased understanding, and recognized growth validated the success of the development of the habits. Results from the study has excessive implications of future teaching and learning strategies within both regular and special education courses within the site school.

Limitations of the Study

The study focused on 41 students with a learning disability and 4 special education teachers within a different resource subject area classroom, which created a small sample size. Having limited population and opportunity within the schools special education courses, it was difficult to select from a random pool of participants. In piloting the internalizing and journaling of the habits of mind within a general freshmen science class, positive perceptions were recognized. It was conjectured that the positive effect of this study could have a broader sample worth being considered, although focus was aimed for a resource room.

Another limitation was the complexity of trustworthiness in teachers implementing and applying Costa & Kallick's Habits of Mind into their classroom and students displaying full cooperation throughout. However, utilizing a mixed method approach within the study reduced the limitations throughout the process. Qualitative measures played a major role in allowing students and teachers to give perceptions in a variety of ways. To counter the limitations within the study, quantitative data was justified in this mixed method approach.

Chapter 4

Findings and Results

The purpose of this research was to gather perceptions and perspectives of students and teachers in regard to Costa & Kallick's Habits of Mind. Providing opportunities to develop the habits of mind to students with learning disabilities (n=41) and special education teachers (n=4), this action research study provided authentic information in relation to the goals of the study. In order to meet the goals of this study it was imperative to utilize multiple data collections with teachers and students.

The goals of the study were as follows:

1. For students with LD to show growth in their understanding and development of the habits of mind.

2. For students with LD to be able recognize and connect each habit of mind appropriately to various situations in life outside of school and within a learning environment.

3. To provide teachers with strategies and ideas on how to incorporate the habits of mind into their teaching practice and subject area.

4. For students with LD and teachers to reflect upon their learning and thinking in relation to the habits of mind within a learning environment.

The primary research questions were the driving force for this mixed-method, phenomenological study. This chapter provides the key findings obtained from these primary methods used to collect data: student and teacher interviews, pre- and post-rating scales, weekly journal writing, and three student focus groups. A confluence of all these methods enhanced better understanding and development of knowledge for students and teachers in reference to the habits of mind and research questions listed below.

1. What are students with learning disabilities perceptions of Costa & Kallick's Habits of Mind in connection to learning within a resource room subject area?

2. What are special education teachers' perceptions of their teaching practice and student learning in relation to Costa & Kallick's Habits of Mind within their resource classroom subject area?

3. Is there a difference for students with learning disabilities and special education teachers of a subject area resource room in the application and preference of certain habits of mind?

Throughout the study common themes and findings were brought forth through the methods utilized. These main themes are as follows in the order presented: Metacognitive Awareness, Exploration, Building Community, Self Confidence, Application Potential, and Subject-Based Habits.

All teacher participants were given pseudonyms for confidentiality reasons as stated in chapter 3. For the purpose of this study teachers were identified as: HB, MB, TB, and HC. Students' will be identified by a *'P' number*. The 'P' stands for participant and the number represents the student.

Each theme within the study is analyzed separately. The results, findings, and perceptions of both students and teachers, in relation to Costa & Kallick's Habits of Mind, are discussed in detail. An aggregate pre-post display of the habits of mind rating scale will be presented later in this chapter. Lastly, the findings will be brought together in relation to the research questions and goals of the study.

Metacognitive Awareness

Throughout the study the theme of metacognitive awareness was apparent with both participant sets. In the eyes of the researcher, metacognitive awareness was defined as "being conscious or aware of the habits of mind". The awareness of habits within and outside of the classroom for both teachers and students is represented through the various methods used throughout the study.

Students in the classroom

From the beginning to the end of the study many students presented the ability to be mindful of the habits they were utilizing within the classroom. One student in history class journaled:

> During this past week in class, I used *thinking and communicating with clarity and precision*. I used this by when I was doing a presentation on one of the topics, I explained it well so that everyone could know what I was talking about because they didn't really hear all of the important things about the topic. (Journal Reflection, P21, February 2, 2015)

The idea of making sure to communicate effectively during a presentation was imperative for this student. It seemed that this student was mindful of making sure to be clear and precise with their words, although it was confusing how they stated that "they didn't really hear all of the important things about the topic". To clear up some confusion, an interview with this student was necessary:

> Researcher: Can you clarify what you mean in your journal on how you used *thinking and communicating with clarity and precision* with your presentation?
>
> Student: Everyone in class has been confused with the important points about the topics that were presented by other students. I made sure to use *thinking and*

communicating with clarity and precision on a power point and presenting to

the class. I explained it so everyone understood, I was loud and clear as well. (P21,

Interview, February, 9, 2015)

From this interview it is clear that this student was cognizant of using the habit of *thinking and*

communicating with clarity and precision. The student's ability to see that peers did not

understand other presentations sparked the importance of making sure the presentation was

comprehensible. During the interview this student expressed confidence while explaining in clear

language and conviction about the success of the presentation. It was evident that this student

was conscious of this habit and the ability to make sure it was portrayed within the presentation.

Attentiveness

The ability to focus and concentrate within class showed to be a common concern for

students within this study. When students were introduced to the habits of mind within their

classes, the purpose for these dispositions was to develop positive metacognitive awareness and

provide effective habits that lead to success. For a student in a math class, the ability to be

mindful of a particular habit was exhibited through mental focus. The student journaled:

Lately I've been zoning out during class and always missing out on all of the information

causing me to become completely confused when I start my work. I decided to pay more

attention in class and listen to the teacher as best as I can. This helped me focus more and

get my class work to be finished. (Journal Reflection, P40, January 9, 2014)

It was apparent that this student used *listening with understanding* within math class. Although

the "*empathy*" part of this habit was not exhibited, it was obvious that the student made a clear

effort to be more aware of their ability to listen with understanding to the teacher when it came to

information and classwork. Knowing that "zoning out" was an issue for this student, and that it

was affecting their progress within class, this student made a conscious effort to utilize *listening*

with understanding in order to focus more intently and complete work. Later journals of this

student indicate that this habit was followed through and shown to enhance their success in

school.

Think before acting

Throughout a school day many events take place that bring forth opportunities to use the

habits of mind in the classroom. As these events arise the ability to practice a habit can show

long-term positive effects that students use daily. The habit of *managing impulsivity* can be

implemented across the board in all classes. A student in English class journaled:

A habit of mind that I use in class is *managing impulsivity*. When you need to share an

answer and feel like you need to say it right away, *managing impulsivity*. I use that habit

of mind every day. I nearly always have something to say, but I try to limit my calling out.

Wanting to call out in class is a normal feeling, but you have to manage your impulsivity.

(Journal Reflection, P40, February 20, 2014)

From this journal it obvious that the student felt that managing impulsivity is an important and

effective habit within the classroom. In order to further clarify this student's ideas, an interview

was conducted:

Researcher: Can you clarify what you mean by using *managing impulsivity* within the

classroom?

Student: When I am in a class I want to make sure not to call out and interrupt the teacher.

I learn better when I can hear others speak and not everyone shouting out.

I make sure to do the same so others can listen and learn. This helps me in all my classes

and I do it all the time. (P26, Interview, March, 3 2015)

It is apparent that this student has made a habit out of *managing impulsivity* within the classroom. When in the learning environment controlling impulses to shout out answers and interrupt teachers has become a habitual disposition learned by this student. For this student it is important to understand that maintaining this habit can lead to enhanced success and learning, not just within English class, but with all courses in school.

Habit awareness

Although the significance of being mindful about the habits of mind in relation to a presentation/activity is important, being able to reflect and discuss these dispositions can be effective for students. During focus group lunches, several students expressed their general awareness about the habits of mind. When asked about students' thoughts and feelings in working with the habits of mind in the classroom, some students provided recognition of the habits:

> It is interesting in seeing how our minds actually work. Sometimes it is difficult since you don't even realize that you are using them until you sit down and think about it. It is interesting. (P4, Focus Group, January 30, 2015)

> I like them, no pressure, but they get me thinking on my feet all the time. (P2, Focus Group, February 13, 2015)

Clearly, the importance of being aware of the habits is interesting and important to these students. The one student (P4) discusses taking the time to think and reflect on the habits used even when you don't realize you are presenting them. This student's awareness of the habits seems to come after they utilize them. The reflection aspect allows this student opportunity to ponder the use of the habits and how they were incorporated effectively into what they were doing. From a

different point of view, the other student (P2) mentions how the habits "get me thinking on my feet all the time". This insinuates that the student uses the habits as a way of problem solving. Although no examples were given, it seems that the student is mindful of the habits when confronted with problems or work that needs to be completed. Both focus group statements give an impression that the habits of mind are something these students think about as they work, found to be interesting, and utilized within their life.

Attitude change

It was found that being mindful of the habits with assignments, reflection, and in the classroom can be effective for students. Another area of metacognitive awareness was found in the ability to understand feelings and attitudes with the habits. A student's ability to *think flexibly* and change their mindset was shown in this journal reflection:

> In school I felt dizzy and I went to the nurse's office. I knew it was just my nerves and started *thinking flexibly* to change my mind's different perspectives and I changed my thoughts to positive thoughts. I changed my mind and went to history feeling better and calmer. (Journal Reflection, P1, December 8, 2014).

In this journal it seemed as if the student was generating an alternative and different perspective in how they are feeling. By changing thinking to positive thoughts and feelings, this student was able to go about the day feeling more at ease. The mindful-approach of *thinking flexibly* seemed to help this student respond to their feelings in ways that changed their thinking in positive ways.

Another habit that was helpful in changing an attitude was the ability in *finding humor*. One student journaled:

> The habit of mind that I used outside of class was *finding humor*. One time I was having a really bad day. I got a B- on my history report and forgot to do my health assignment

and also spilled coffee on my jeans. My friends knew that I was having a bad day and

they were trying to cheer me up then it came to me I wasn't going to let all those bad

things bring me down. So I decided to have some fun joking around and it turns out at the

end of the day it wasn't such a bad day. (Journal Reflection, P28, January 9, 2015)

Although this student was experiencing a day where everything was going wrong, the ability to

reflect and find humor seemed to be a coping mechanism that worked to shift the student's focus.

It seems as if this student was able to reflect and consciously shift their perspective to have a

more successful day.

The two above experiences asserted that finding humor and thinking flexibly changed

their state of mind. Both students, when reflective of those habits, changed their attitude and

outlook on the situations they were experiencing.

Teacher metacognitive awareness

Teachers were found to present awareness in using the habits of mind on multiple

occasions in and outside of the classroom. The idea of practicing a habit insinuates that an

individual is constantly thinking and applying that habit to situations. In a journal entry, one

teacher writes:

This week I practiced a habit of mind with *remaining open to continuous learning*. I

co-teach with an English teacher and we were in the media center researching with

student on their newest novel, Of Mice and Men, and in the researching process we came

across a compilation of John Steinbeck's essays. In these he writes about his experiences

that would help him write two of his novels, Of Mice and Men and the Grapes of Wrath.

These essays were amazing. While reading I could see directly where he shaped his

characters and created his setting. These essays are going to be a great way to show my

students how authors research and apply their knowledge to the pieces they write. I will

pull these into my lessons for students to experience. This might lead to an assignment

where students will need to shadow a parent or someone significant in their lives and

write a piece based on his or her experience. (Journal Reflection, HC, December, 15,

2014)

The habit of *remaining open to continuous learning* within teaching and gathering new ideas for

a lesson was apparent with this teacher. From this experience the teacher demonstrated their

ability to keep an open mind, construct meaningful thinking, and link it to reflection on a

possible assignment to use within class. At no point does the teacher show complacency within

their thinking and teaching. It seemed as if this teacher is confident in their teaching ability yet

makes a conscientious effort to learn more and make connections to improve pedagogy.

Practicing being mindful throughout the week with this habit has led to deeper thinking in how to

enhance lessons and teaching.

Building the habits of mind into lessons and assignments is an endeavor that takes time to

accomplish and successfully implement. As the study progressed teachers were found to utilize

and be more alert of the habits within discussions, classroom management, and activities.

Although, one teacher journaled about the incorporation of the habits into a designed math

lesson:

Today my students were given a table of data showing airline pricing according to how

many weeks in advance they book the flight. The students had to create a graph, find a

line of best fit, determine the rate of change and linear equation, and then make

predictions on prices based on the given amount of weeks the flight was booked prior to

the flight. While creating this activity I thought about all the ways in which the habits

could be incorporated through this lesson. During the lesson while of observing the

students I noticed many students having exciting conversations about using *prior*

knowledge, *working interdependently*, *managing their impulsivity*, *listening with*

understanding to their group members, *persisting*, *striving for accuracy*, and one student

thinking flexibly by finding a different rate of change than how we did it in class.

(Journal Reflection, MB, February 18, 2015)

 It is clear that this lesson brought forth the opportunity for students to learn the material while

portraying the habits of mind within their groups. The teacher demonstrated her ability to take a

topic and create a lesson geared towards meeting course objectives and habits. While preparing

for the lesson the teacher addresses how the habits could be incorporated and utilized by the

students. This implies that throughout the process of planning the activity, the teacher was

mindful of habits and how they could be implemented. The teachers' reflection presents the idea

that when conscious of the habits while planning lessons and activities, the more likely teachers

will experiment with different habits.

In addition to the habits of mind being utilized within a classroom, the ability to carry

them over into real life scenarios is equally important. Many teachers found the habits to be

particularly relevant within teaching and learning and expressed their ideas mostly through

journaling. Although, one teacher made it a point to be cognizant of the habits within their

personal life. From the beginning of the study it was found that journaling about the habits

outside of the classroom was helpful for this teacher. One example of how the teacher used the

habits is discussed below:

I utilized the habit of mind of *listening with understanding and empathy* with my

children. My children both had a lot of homework and they felt overwhelmed. I discussed

with them how I have felt like that as well at one time. I listened to them and tried to

provide them with some time to relax before completing the work. Then, I worked on

breaking down their homework so it wasn't so overwhelming. It seemed to help and they

were appreciative of the help I offered. (Journal Reflection, HB, December, 12, 2014)

This journal demonstrates that the teacher finds the habits of mind to be practical and effective

when used in real life situations. The teacher was able to recognize that the habit of *listening with*

understanding and empathy connected effectively to the situation with her own children. It is

apparent that the teacher, when talking and listening to her own children, presents an

understanding of what it is like to exhibit that habit in this particular situation. It seems that the

teacher presented this habit with confidence and a feeling of success.

Exploration

The theme of exploration in connection to the habits of mind and defined by the

researcher is, "the ability to investigate and use the habits of mind within the classroom" (Costa

& Kallick, 2008, p. 56). As teachers, the job of creating lessons, activities, and avenues that

incorporate the habits of mind into the curriculum and class culture are important. The idea of

exploration was imperative in order to provide students with knowledge and the opportunity to

apply the habits. All data gathered for this theme was from the perceptions and ideas of the

teachers.

Each teacher throughout the study seemed to focus on exploring a different component

within their teaching practice. Although all teachers incorporated the habits of mind into their

lessons and activities, it was interesting to find that reflections focused heavily on a specific

feature of teaching. The sub-themes within exploration are: classroom management, lesson

planning and activities, modeling, and group work.

Classroom management

In order to structure a successful classroom built for learning one needs to be able to manage behavior and conduct within that environment. The habits of mind gave teachers an opportunity to reflect on their use for the purpose of classroom management. For some teachers the habits were more impactful in the area of maintaining order for a conducive learning environment to take place. The English teacher writes:

> The Habits of Mind are a new concept for me. In the classes I teach the two areas I see my students struggling with the most are *managing impulsivity* and *striving for accuracy*. Hopefully over the next five weeks I will see this improve as my students become more aware of their habits and behavior. (Journal Reflection, HC, December 8, 2015)

It is implied that the teacher is focused on the behavior of the students in relation to the two habits mentioned. Recognizing that the habits are a novel approach to teaching and learning for this teacher, the student behavior seemed to be of most concern. It suggested that the teacher was interested in monitoring the next five weeks to find if the habits of mind were effective in relation to behavior application. Although, it doesn't seem from the quote that the teacher is reflecting on her role in helping with their behavior, only that she hopes it improves as they become more aware.

The discovery of certain habits of mind that connect to student behavior offers a variety of opportunities for teachers to explore and implement as strategies. When utilizing the language of the habits in addressing inappropriate student behavior, the more likely students will be able to relate to the terminology and connect to the misbehavior. Identifying a habit, matching it with the inappropriate behavior occurring from the student, and then having a discussion incorporating both the habit and behavior, can reveal understanding and success. The same

English teacher who earlier expressed hope that students behaviors would change with the focus

on the Habits of Mind, reported on a student in class who frequently disrupted and displayed

impulsivity:

> We discussed (the student and I) his impulsive behavior and ways he can manage it. We
>
> brainstormed ways he can go about this and he came up with waiting a few seconds
>
> before he responds out, write down what he wants to say instead of yelling out. I
>
> acknowledged that these were all great ways to *manage his impulsivity*. We wrote these
>
> down and placed them on his desk as a reminder. (Journal Reflection, HC, January 12,
>
> 2015)

The teacher acknowledged further in the journal that the student's behavior improved and that he

was utilizing the strategy of writing down what he wanted to say and then raised his hand. It was

implied that the joint discussion of the habit of mind of *managing impulsivity* helped the teacher

prompt the student to pinpoint his feelings and behavior of being impulsive. Through working

interdependently and communicating with clarity with the teacher, the student was able to make

a positive change in behavior.

At a later point in the study, the English teacher expressed the importance of *listening*

with understanding and empathy in reference to classroom management and figuring out a

resolution to a student issue. In a situation that was prompted by a student asking to have his seat

changed, the teacher responded asking why this was necessary. Hesitant to explain the situation

with another student that was prompting the request, the student finally conceded and confided in

the teacher. Eventually there came a point where both students had an opportunity to resolve the

situation, yet neither could come to a resolution. After all options were exhausted, the teacher

intervened. The idea of *listening with understanding and empathy* is explained in this journal

reflection:

> After speaking to both of them (students) and listening to their views on what had
>
> happened there really was no other choice. They were both good kids who misinterpreted
>
> what the other's intentions were. They both went to peer mediation hesitantly and
>
> resolved their issues. They don't seem to be as friendly but they seem to have come to an
>
> agreement. (Journal Reflection, HC, February 2, 2015)

The teachers' ability to listen with understanding is exhibited by hearing both students' view on

the issue they were having with one another. Empathy from the teacher is revealed in her

handling of the situation. To clarify how the teacher emphasized empathy with the students, she

stated:

> Researcher: Can you clarify how you used empathy within this situation?
>
> Teacher: Being in the profession as long as I have, I could emphasize and understand
>
> where the students were coming from. I didn't want the problem to persist and affect the
>
> students in the long run, so I decided it was best to send them to mediation. They are
>
> kids and I care for them and realize how hard it is to be a student sometimes.
>
> (HC, Interview, May 6, 2015)

From this situation it is implied that the teacher was mindful of how important it was to listen

and empathize with the students about this subject. In taking this approach to the situation, it

seemed as if the teacher wanted to help the students manage the situation in a pro-social way.

This pointed out the importance of presenting successful approaches using the habits of mind,

and modeled the significance of *listening with understanding and empathy*.

Although students may need support in understanding the habits of mind and the rationale behind them, teachers can benefit and learn as well. An instance occurred in English class where a student who was on the varsity ice hockey team was making fun of another student for playing on the junior varsity. This immediately sparked infuriation in the teacher, as she explained in the journal:

I was caught off guard by his response and wanted to reprimand him for speaking poorly about his fellow team members. I was pretty upset with him but couldn't let my emotions get in the way of objectively reprimanding him. I had to control my impulsivity by not saying that is an awful thing to say and you are rude. That is what I wanted to say.

(Journal Reflection, HC, February 10, 2015)

It is inferred that the teacher was controlling impulsivity and thinking of a more appropriate way to respond to the comment. In an interview with the teacher they clarified how they reacted:

Researcher: Can you clarify how you reacted in this situation and why?

Teacher: Although it was extremely bothersome and I wanted to tell the student he was rude, it allowed me to be mindful of *managing my impulsivity* and come up with an effective way of handling the situation. The class could tell I was angry and I felt it was also a great moment to show my ability to manage my impulsivity. By having a discussion about team support and standing up for one another, it led the student to apologize to the other for his mean comments. This was a great moment to model that habit of mind and teach a valuable lesson on team support for one another.

(HC, Interview, May 6, 2015)

The value of the *managing impulsivity* for the teacher allowed her to remain calm yet be thoughtful about her next approach to the situation. It was handled with care and brought forth an opportunity to model being proactive instead of reactive to a situation.

From the beginning of the study to the end the same English teacher seemed to have gained an understanding of the importance of the habits of mind in working with students, managing a classroom, and within in her own thinking. It was pointed out that *striving for accuracy* and *managing impulsivity* were habits this teacher wanted to improve and expand on with her students. Both habits were expressed throughout the study in dealing with behavior. It is apparent that the teacher brings forth many habits within the classroom which have seemed to lead to success.

Lesson planning

The ability to incorporate the habits of mind within lessons and activities in the classroom can lend opportunity for students to apply and understand the significance of dispositions. Exploring what habits can inform activities, subject matter, topics, and objectives can be a task that allows open-minded thinking. Realizing that styles of teaching and learning are individualistic, the idea of applying the habits of mind into one's curriculum can bring out creativity and new ideas. The exploration of implementing the habits into curriculum in this study was done predominately from the science teacher. As a way to investigate the habits within the science classroom, the teacher journaled about her first activity:

> I introduced the Habits of Mind with an activity to introduce all of the h.o.m. They had
>
> to pick a career in science and link the h.o.m to each aspect of the particular career
>
> picked. They worked in pairs and discussed how to complete it. They were given an
>
> example of a chef and example for each h.o.m. We reviewed the answers together as a

class and they seemed to have a better understanding of the concepts.

(Journal Reflection, HB, December 8, 2014)

The teacher in this example is trying to help students make a connection between the Habits of

Mind and their actualization in careers in the field of science. This activity is supportive of the

students learning within the classroom to make connections to science careers and how the habits

can be utilized within those careers. The teacher also made reference within the journal about

how this activity allowed her to think flexibly by changing her normal lesson plans. In an

interview to clarify thinking flexibly, she stated:

Researcher: Can you clarify how you thought flexibly?

Teacher: This lesson and incorporating the habits of mind forced me to try something

new. My students learned about careers related to science, which was great, but also

brought into the picture their ability to connect the habits to these jobs. This activity

sparked great conversation about the habits and how relevant they are in the world of

careers and science. It was helpful for me as well as I was able to develop habits and

subject matter. (Interview, HB, May 6, 2015)

As indicated from this interview the teacher is exploring a way to apply the habits to subject

matter. Most importantly, the students and teacher were able to have conversation about the

habits and their importance in learning, science, and careers. The idea of *thinking flexibly* by the

teacher was effective in how she was able to think outside the box and try something different

within her teaching practice which resulted in more clarity about the habits of mind, as well as

their utility in the workforce.

The building and application of the habits from the science teacher is apparent throughout

the study. Recognizing discussions and activities with the habits of mind in class, the teacher

seems to be incorporating the habits consistently and with confidence. Her creativity to connect the objectives of the course with the habits is shown in a reading activity. In an interview with the teacher, she explains more about the activity:

> Researcher: Can you clarify the activity you did in this journal entry?
>
> Teacher: I wanted to incorporate a reading activity dealing with population, geography, and water systems. In addition I wanted for students to understand cultural differences. The article I selected was about a mother, father, son and four daughters who lived in Africa. Making a living working on a farm, the family struggles and the wife gets reprimanded from mother-in-law for not wanting to have more children. One son will not cut it, and they are expected to have more. It is a great reading for students to recognize cultural differences. The habits of mind I wanted them to use were *listening with understanding and empathy* and *thinking flexibly*, and they did. It was great.
>
> (Interview, HB, May 6, 2015)

It seems that the science teacher created a lesson that connects to science related topics along with the habits of mind. This reading assignment promotes students to *listening with understanding and empathy* in reference the cultural aspect piece. In a journal, HB wrote, "The story provided my students with a greater understanding of empathy especially with cultural differences," (Journal Reflection, January 12, 2015). The science teacher referred to arranged marriages and accessibility to water. To make this connection, the teacher asked two students "You two will be married, how do you feel?". This question seemed to get students thinking, as discussed in the teacher's journal:

> They joked at first but then seriously thought about it. They said they would feel overwhelmed and very nervous. It really helped explain the feeling of empathy. They

were trying to understand how they would feel. (Journal Reflection, HB, January 12,

2015)

The opportunity for the science teacher to develop a lesson that allows students to *think flexibly*

in changing their perspectives on topics within the course illuminated the idea of natural

connections between science and the habits of mind. It is implied that students gain a better

understanding of the habits when discussed and utilized in activities, assignments, and,

conversely, they may gain a deeper understanding of the content area through explorations of it

using the habits of mind. In a journal reflection, HB wrote, "When students have the habits of

mind explained to them they seem to get a better grasp of the concept. At the beginning of the

activity, I indicate the habits of mind we will be focusing on and this helps focus their learning,"

(Journal Reflection, January 12, 2015). This implies that students seem to comprehend and make

connections to the habits when discussed beforehand.

Engaging students

A quality of teaching is the ability to capture the interest of students about a topic.

Teachers tend to have a variety of ways to engage their students. The ability to evoke the habit of

responding with wonderment and awe within students can lend significant opportunity for

engaging a classroom. The science teacher presents how she exhibited *responding with*

wonderment and awe with an activity on exponential growth:

The students were working on a human being (bean) population activity where they had

to see the mathematical difference of having a 2-child family for all offspring vs. a 3-

child family for all offspring over ten generations. Many of them said it would not be too

different. After we completed the data table, the students *responded with wonderment*

and awe because they could not believe the difference between having one child more for

every offspring over 10 generations. (Journal Reflection, HB, January 20, 2015)

This journal reflection is telling of surprised reaction of the students. As way of introducing this topic the teacher made sure to intrigue her students by completing the offspring data table. The high numbers amazed the students, so the teacher decided for further engagement she would complete a six child family and every offspring would have six children for ten generations. After this data table completion there would have been over 10 million offspring. The teacher states, "They tried to wrap their heads around the differences with numbers. The students' shock was a great teaching tool for understanding exponential growth," (Journal Reflection, January 20, 2015). It is implied that from this activity students *responded with wonderment and awe* by the high numbers of offspring which generated interest in the activity.

Modeling and discussion

In the study, teachers referenced the importance of discussions and conversations with the habits of mind with their students in their classes. The approach of explaining, indicating, referencing, and talking about the habits daily in class are indicated in teacher journals. The idea of modeling the habits to the class was shown to be effective with the math teacher in the study. Throughout the math teacher's journals the importance of modeling eventually evoked discussion with the habits of mind. Discussions were brought to light from the math teacher in response to a challenging question given to the class that elicited the habits. In a journal reflection the math teacher explains:

> As we discussed the groups' results in class, the students listed all of the habits of mind that they used. The habits they came up with were: *persisting, thinking flexibly, striving for accuracy, questioning and posing problems, applying past knowledge to new situations, thinking and communicating with clarity and precision, finding humor, and*

thinking interdependently. (Journal Reflection, MB, December, 12, 2014)

It is apparent that the teacher and the students are acknowledging the habits that they were using

to solve the challenging question. This was a first journal reflection from the teacher and it

demonstrates how the students are applying the habits to their activities and learning in math

class within the first week of the study. Discussing and promoting the habits to the students

within the working through the act of problem solving implies that their ability to gather more

understanding will occur. In an interview with the math teacher she claimed that their thinking

was more in-depth than expected:

> Researcher: Can you clarify this journal entry about students thinking with the habits?
>
> Teacher: When students were discussing the habits they were using during the activity
>
> they not only mentioned the habits of mind used, but *how* they were using it. For
>
> example, one student mentioned that in their group they were *thinking interdependently*
>
> by discussing about the problem as well as *applying past knowledge to new situations* by
>
> talking about what they all know about the problem, the knowledge they know from prior
>
> math courses on how to effectively solve the problem, and using that to solve as a group.
>
> Pretty interesting, I did not expect that from them. (Interview, MB, May 6, 2015)

It is clear that this class discussion elicited students' ability to think broader about the habits they

were using in the activity and to not only identify them, but to explain how they used them to

support and extend their learning. This information suggests that students can identify and apply

the habits with success.

Although discussion brings forth an opportunity to engage everyone on a topic, the idea

of modeling can be just as powerful. Modeling the habits articulates what they look like when

used and emphasizes the role they play within learning. When effectively modeled, discussion

can take place to reinforce and clarify what was shown. In an interview with the math teacher, she stresses the importance of modeling within math:

> Researcher: Can you clarify the importance of modeling in your class?
>
> Teacher: In class I find modeling the habits of mind to be most effective. It allows me to show what it is like to use the habits by modeling while the students identify what ones I am using. It seems more authentic and real to me. Plus it allows visual learners to understand better. (Interview, MB, May 12, 2015)

From this interview the math teacher asserts the importance of modeling and how it works for the students to better grasp the concept of the habits of mind. It seems that the teacher finds the method of integrating the habits within the lesson as an effective way to problem solve and reflect. In a journal the teacher expresses this idea in more detail:

> This week I modeled which habits of mind I used to solve math word problems. I read word problems and thought out loud as I worked through them. The students had to determine which habits of mind I used while solving. They enjoyed and found humor in critiquing my use of habits of mind. (Journal Reflection, MB, January 9, 2015)

The journal reveals that thinking out loud led the students to determine what habits the teacher was using. It seems that emphasizing thinking out loud while modeling during the word problems allowed for students to become more engaged. In addition the math teacher points out that the students enjoyed and found humor in critiquing her habits of mind. The mentioning of the students finding humor implies that when students discover "the funny side" in relation to learning, this promotes success in the process of understanding. Within the journal the teacher reflected that she seems to have found an effective approach to relating the habits to her instruction and student learning in math.

Group work with the habits of mind

The idea of working effectively in groups is essential in school and life. Within the study it was apparent that when students collaborated and assembled in groups in history class, they were more likely to present the habits of mind. Class focused primarily on discussions, projects, presentations, and collaborative work that required all members of a group to perform and participate on an assignment. In an activity on the *Plessy vs. Ferguson* legal case, the history teacher journaled:

> Students were able to tie in racial events today (Eric Garner, Michael Brown, etc.) and how racial tensions still last today as they did during the Civil War and Reconstruction Era (*applying past knowledge to new situations*). The students were also engaged in small discussions within groups to discuss issues during the Reconstruction Period, and then take those ideas to start to research their own groups' events they were given to research from this time period (*thinking independently*). Knowing that they were to present their Reconstruction research project, the students made a diligent effort to ensure that their information was accurate and grammar was punctual (*striving for accuracy*).
>
> (Journal Reflection, TB, February 10, 2015)

In this example, students worked successfully in groups and focused primarily on *thinking interdependently* and *striving for accuracy*. Through small discussions students seemed to have gathered and gained more information from their peers on the Reconstruction period which led to developing their own group research project. In an interview with the history teacher, he explains:

> Researcher: Can you clarify this journal entry on how the student used the habits?
>
> Teacher: When they worked in groups, they communicated effectively and presented

a lot of the habits of mind through their actions. I could definitely tell that the students

were motivated and working hard to get a good grade. (Interview, TB, May 6, 2015)

The teacher illustrates the success of the habits of mind being used in the class. Although only

two habits were mentioned in journal, the interview tells that many habits were shown through

actions of the students. It is implied that although students do not mention or discuss the habits of

mind in class, their ability to perform them is apparent, in particular to the teacher.

In a classroom the ability to work together and acknowledge the Habits of Mind in unison

can lend opportunity for enhanced understanding. As a group the students in the history class has

shown their ability to utilize the habits successfully. Whether working in small or large groups,

this class seems to work effectively with the habits as a team. The teacher expressed his students'

ability in exhibiting the habits in this journal reflection:

The students in class have exhibited many different habits of mind this week.

Throughout the week many students have demonstrated the habit of mind *listening with*

understanding and empathy. While in class as other students are speaking or sharing their

ideas the students are actively engaged in conversation and following rules of etiquette.

The students are open to others' ideas and share their thoughts with each other. The

students have also demonstrated *applying past knowledge to new situations* by sharing

information that they learned in their other classes, in particular their English class, and

using that information in history class. (Journal Reflection, TB, February 2, 2015)

 It is implied that the participants in the history class find the habits to be effective when doing

group work. The idea of sharing ideas and information, listening to each other, and actively

engaging in conversation, all important interaction skills, reveal certain qualities of the habits of

mind. In an interview with the history teacher, he explains more about the idea of the group using the habits:

> Researcher: Can you clarify this journal entry and the habits exhibited by your class?
>
> Teacher: All my students in class really show that they are thinking about the habits when we have activities and during lessons. It seems that over the past two months the students have really thought about the habits and connecting it to their work. I feel the conversations about the habits each week has made an impact on their use of the habits in class. The behavior and attitude in the class has shown improvement due to the habits, I feel. (Interview, TB, May 7, 2015)

The history teacher's interview expressed the optimism and potential of the class in relation to applying the habits of mind. It is clear that the students' have positively responded to the habits and are using them effectively within the course. Providing opportunities for history students to work in groups on assignments allows them to recognize and identify with the habits, in particular, those centering on interactive skills.

Final thoughts

When habits are implemented successfully into a classroom the outlook and perception can change in regard to many elements. Each subject discussed in this section supports the idea that the Habits of Mind can relate to a variety of disciplines, teaching styles, students, and class dynamics. The teachers illustrate the importance of exploring and finding how the habits work best for them. Each subject area teacher displayed a different method for incorporating the habits into their class. Although all habits of mind were not discussed, the findings reveal that students and teachers felt comfortable with the ability to explore certain habits as they related to teaching, learning, and establishing a class culture of their use.

As the teachers demonstrated their use of the habits of mind, it allowed opportunities for students to learn and recognize their importance. It seemed that the teachers at the end of the study felt they were successful in building a habits of mind community.

Building Community

Over the course of study teachers and students revealed deeper understandings of terminology and application of the Habits of Mind within the classes. This experience showed that each class worked as a group in learning and utilizing the habits on a daily basis. Through discussions, activities, lessons, journaling and group work, it seems that each class built a community based on the Habits of Mind. With a shared goal and function it is shown that every student had a similar mindset that consisted of being mindful of the habits. Although the idea of similar thinking between students and teachers cannot be definite, it is fair to say that the goals were almost identical for all. Recognizing the effort each participant put into the study, it seemed that the idea of community building was apparent and a driving force throughout this experience.

The idea of community was brought forth from the study by how students and teachers addressed an importance of bonding together as a class or with another group.

Classroom community

Student view

Many students mentioned the importance of working with their peers on projects and classroom activities. It seemed that during focus group discussions the idea of classroom community was exhibited through students' comments. One student in the focus group mentioned:

The habits of mind are helping bring us together in the classroom, help us do better, and focus on learning.(P28, Focus Group, February 6, 2015)

This was the student's thoughts and feelings in working with the habits in history class. It is likely that the student finds the class to be an effective learning environment in part due to the connection of the habits. This reveals that the habits are enhancing this students' experience within the classroom and with his peers. The same student later remarks about the habits being a helpful learning tool:

> Before me and my friends, during projects, we only did things one way, now all of us are getting more involved, and *thinking interdependently* to get a better group grade. (P23, February 6, 2015)

Emphasis on thinking interdependently with friends during projects seemed important to this student in being able to have success. As this particular focus group continued to interact about the habits, many references to community were expressed. There was a feeling and thought that all students had a similar understanding about the idea of togetherness with the habits. For example, during the focus group, in reference to *thinking interdependently* as a community, the following was stated:

> Researcher: What habit of mind do you feel you use least within your science
>
> class and why?
>
> Student (P13): *Thinking interdependently*, most of the time we work by ourselves, if we worked with partners in the beginning it would help, rather than get together later to review the work.

This response is telling of the importance of *thinking interdependently* and working in a community. The student seems to feel comfortable and engaged more when working in a group with his peers.

In another focus group a student shares how the habits of mind were a helpful learning

tool in history class:

It gets me to take risks and work together with other people. Helps get to know people

and work better. (P7, Focus Group #3, February 13, 2015)

It was important to take a mental note during this comment that all students in the focus group

were nodding and agreeing with the students' comment. This suggested that all students were on

the same page and believed that the habits of mind brought students together as a community and

enhanced learning.

Throughout all three focus group meetings the discussions about the Habits of Mind were

positive in regard to understanding and applying them effectively in their lives. As each focus

group responded to questions and listened to others' comments it become obvious that each

student shared a common thinking and belief in regard to the positive influence of using habits.

Teacher view

The perspectives of the teachers in the study in relation to community building were

apparent through journal entries in reference to the habits. It seemed that as the study continued

more student and teacher conversations on the habits were documented by the teachers. The

building of a habits of mind vocabulary and understanding was illustrated from the journals and

focus groups for both teachers and students. One teacher acknowledged how the habits were

brought forth in a discussion after the long holiday break:

The students had a long break and I was concerned that they would not remember the

habits of mind concept. I was very excited when I came into class and we started to

discuss the habits of mind used over holiday break and the kids were able to share stories

that they had, relating to their daily life activities to the habits of mind concepts. For

example, one student discussed that she had relatives from another country visit her

family and she said she really had to utilize the habit of mind *listening and*

understanding with empathy because they were acting rude at times when they were

staying with her. (Journal Reflection, HB, January 5, 2015)

It is implied that the teacher was impressed and eager to continue with the conversation about the

habits used from the students over break. This discussion reveals that students were mindful of

the habits in relation to their daily life experiences, not just in their classes at school. They were

able to generalize their use in everyday interactions and events, as positive life and interaction

skills. Later in the journal the teacher explained her amazement in reference to class:

As for class, I was *responding with wonderment and awe* because of the students use of

the habits of mind language and understanding of it. I was amazed even during a biome

map activity how students said to other students "that is not colored in the correct biome;

remember you need to *strive for accuracy*". I was impressed of how my students were

helping others and incorporating the habits of mind strategies. (Journal Reflection, HB,

January 5, 2015)

This journal reflection asserts that the science teacher was finding the habits of mind to be a

common language spoken and understood by all in the classroom. During the biome assignment

students remarked about the need to strive for accuracy. The habits of mind were part of the

language of the classroom community.

Math community

The theme of building community throughout the study was apparent and exhibited by

students in math class. Student journals revealed a lot of group work while utilizing the habits of

mind toward building community. Most appealing was the idea of naturally discussing and

reflecting on the habits. The math teacher journaled:

> It has become our routine for students to verbalize every day which habits of mind they
>
> used as we work through math lessons. It comes more naturally to my students now, and
>
> it has enabled them to think about math in another way. (Journal Reflections, MB,
>
> January 22, 2015)

It seems that the teacher acknowledges that the routine of verbalizing the habits has enhanced

learning and built a stronger bond with students' in the class. She continued:

> The habits have become something that all my students share, discuss, and
>
> talk about with each other. It seems to have become a language that they all understand
>
> and use during math class. When we do math problems or work in groups to solve a
>
> problem the students show the habits when working, whether it be mentioning the habits,
>
> showing, or modeling. (Interview, MB, May 12, 2015)

Here, the math teacher believes the habits to be an integral part of the class. It is recognized that

in this math community all students seemed to have a similar goal and connection to the course

through the habits of mind hence making the learning environment comfortable to all. In other

words, the habits of mind seemed to make a community where every student could fit in and feel

accepted. From the teacher's perspective, math class activities gave opportunities for students to

model and work with the habits on a daily basis, enhancing student learning.

Outside the classroom community

Despite the opportunity to use and build on the habits of mind in school, students

expressed their use of these dispositions in different communities outside of the classroom. Many

students journaled about times when they have used the habits in various activities after school,

such as, sports, work, at home, or with friends. The use of the habits acknowledges that students

are thinking and transferring them to real life situations. For some students their use of the habits

is not apparent to them until they have an opportunity to reflect. One student journaled about the

use of a habit while playing ice hockey:

> I use thinking and communicating with clarity and precision outside of school by playing
>
> ice hockey. I think of the moves I'm going to do in game situations and practices and
>
> communicate with my teammates to shoot the puck or pass it to me.
>
> (Journal Reflection, P29, January 9, 2015)

While the habits may not be part of the team culture, it is apparent that this student is utilizing

the habit of communicating with clarity and precision with teammates for the benefit of the team.

The student may not communicate explicitly with his team about the habits although it seems

that some of these dispositions are utilized during the activity. In a later interview the student

explained:

> We use thinking and communicating good as a team. My team doesn't know
>
> about the habits of mind but we do use a lot them when we play. We strive for accuracy,
>
> persist, and think together in order to be good and win. So these are some habits we use
>
> to be a good team.

It seems that the team has formed a community built around habits that help make them

successful. Although these dispositions may not be termed as the habits of mind, they do play

into the team's culture, communication, and cooperation. The student explained about some of

the habits the team uses on the ice to be a success. This suggests that although the specific habits

of mind may not be recognized and thought about by the team, they are nonetheless key skills

necessary for group success. The universality of team building, working together, and successful collaboration of the ice hockey team are skills exhibited in relation to the habits of mind.

Final thoughts

The ideas and theme of community building seems to have been brought forth within the study through a variety of ways. Both students and teachers have demonstrated the importance of working with the Habits of Mind within their subject area community. It was implied that a culture was established within the math class of utilizing the language of the Habits of Mind when working on problems and activities.

Throughout the study the findings within building community present the importance of bonding and trust with others in the class. In order to build a Habits of Mind community all students and teachers need to have drive and confidence in their ability to utilize them throughout life.

Self Confidence with Habits

The significance of self confidence in utilizing the habits of mind was believed to be an area of improvement in the way teachers and students portrayed the dispositions with conviction. Self-confidence was identified when participants expressed a sense of comfort and ease in their ability to apply the habits in or outside of the classroom. In addition many students explained that the habits assisted in their motivation with activities, sports and daily life tasks. It appeared that many students displayed confidence and satisfaction in using the habits throughout the study.

"Never Give Up"

Throughout the study many students expressed the idea of never giving up on tasks or assignments. It was recognized that the habits of mind played a role in students' thinking and

explanation in how these thoughts developed. The habits were identified in connection to their

behaviors and attitudes. One student journaled:

> I have been persevering more in tasks. Trying to stay focused on the new things the
>
> teacher would teach so I don't end up lost. I've been able to complete my homework
>
> now and get class work done. (Journal Reflection, P40, January 15, 2015)

Here, the student clearly states that they have put an effort into completing work on time and

focusing more in the classroom. As indicated by the student, persevering in tasks was a way to

improve (also known as persisting). Clearly, they felt success in sticking to the tasks and getting

class work completed due to persistence in attending to the teaching.

"I Can Do It"

Two students within the study expressed their thoughts on self-confidence in the area of

sports. Although other students discussed the habits in relation to sports, these two journals

illuminated self-confidence:

> I'm a dancer at Premiere Dance of Flemington and this past week I found myself *striving*
>
> *for accuracy* on my technique. My teacher once told me "all the dance in the world
>
> couldn't get you good technique" and ever since I heard those words, it's motivated me
>
> to try hard and *strive for accuracy*. (Journal Reflection, P39, December 12, 2014)

> For basketball when we're running and it gets hard I learned to keep pushing. I learned
>
> that champs keep pushing even when there's no more gas in their tank. That helps me out
>
> a lot with basketball now I'm more successful with the basketball which means life is a
>
> little more better. (Journal Reflection, P25, January 12, 2015)
>
> *The dancer*

The sense of feeling confident about themself in the area of athletics seemed to be apparent. Pointed out is the habit of *striving for accuracy* and *persisting* within the journal. For the dancer, technique is important and it seemed that the habit of *striving for accuracy* maintains a sense of motivation. The dancer was expressed the ability to think of the *striving for accuracy* during the week and utilized it to perfect technique. In addition, the student claimed that motivation played a part in the habit from the comment made from their instructor. The idea of being motivated from an instructors comment in connection with the habit of *striving for accuracy* seemed to be a factor in this student's ability and confidence to be successful.

The basketball player

In the students journal the reflection on basketball revealed the "push factor" and *persisting*. Although the student is tired and worn out in practice their ability to persist seemed to have allowed for success. From the perspective of the student, their confidence level seemed to rise when *persisting* during practice. It is explained that life is better and more successful for the student. The ability to persist in basketball will hopefully bring forth more success in other areas of life for this student.

Sports wrap up

The positive connotation from these journals implied that the students' felt a sense of confidence in their thinking with the habits. It is asserted that the dancer and basketball player can successfully utilize their thinking with the habits while playing their sport. Many students throughout the study made reference to sports and the Habits of Mind. It seemed that when students were participating in their sport of interest the reflection on and implementation of the habits helped them to develop in their sport and give them self confidence in their performance.

Confidence in the classroom

Through journaling all teachers reflected on different aspects as well as student experience with the habits. From the teacher perspective the idea of self-confidence was recognized and mentioned on a few occasions. Self-confidence was reflected in the math teachers' journal when she states:

It comes more naturally to my students now, and it has enabled them to think about math in another way. The discussions have given them more self-confidence and has brought more meaning to the math we have been covering. (Journal Reflection, MB, January, 22 2015)

It is believed that the teacher feels the students are developing and understanding the habits within the math environment. It seemed that the habits became a common language and routine used within the classroom. Through commitment and consistency with the habits in math class, students seemed as if they were building confidence in their use and comfort with the habits of mind language. .

Building of confidence

Although self-confidence was not directly referenced often throughout the study, many students showed signs of feeling more confident in their use of the habits. The sign of self-confidence in connection to the habits brought forth the ability to become more comfortable in applying those dispositions in life. One student journaled:

I use *listening and understanding with empathy* a lot. I can always listen with understanding because I can give advice to them and I can see how they deal with similar problems to myself. I think *listening with understanding and empathy* is so important for everyone. (Journal Reflection, P1, January 5, 2015)

It seems that this student is confident in their ability to use the habit of listening with understanding and empathy. The student gives the impression that this habit of mind is one that they feel confident in using. In a later interview the student explains:

> I enjoy helping my friends out with issues and feel that I am a great listener. This makes me feel good because I know that my friends trust me and know that I am a good person to talk with about problems. I just enjoy listening to others and helping, it is something I know I do a good job with.

Although this student only discusses confidence in one habit of mind, their ability to develop other dispositions is hopeful.

Application potential

Both teachers and students in the study reflectively expressed their opportunities with applying the habits of mind into their life. The application factor exemplified the true goal of the study by having participants internalize the habits, and applying them in all life situations. When the habits were used on the job, sports, classroom, and in other scenarios within a participants' daily life, it became clear that they had internalized them in their thinking and behavior. Within this section many of the participants showed and explained their perceptions and feelings in applying the habits of mind outside of the classroom context.

Daily life

Throughout the study students reflected in their journals about the use of the habits outside of the classroom. The reflections varied with regard to student's life outside of school although it was apparent that many students utilized the habits for their benefit. When students were confronted with problems or uncertainty it seemed as if the habits helped direct their thinking in a positive and reflective manner that assisted in their success with the activity.

Applying the habits learned in school to real world scenarios asserted that students were mindful

and open to using in their life. Within students daily life many scenarios and events were

mentioned where the habits came into play.

Stress relief

Stress was found to play a role in many student lives inside and outside of school. Many

students expressed their thoughts and feelings about their busy and hectic lives. When explaining

about the situations that present stress, the habits of *managing impulsivity*, *finding humor*, and

metacognition were most frequently mentioned by students. Although one student focused on the

idea of *remaining open to continuous learning* when it came to stress relief:

> Outside of class I used the habit of mind *remaining open to continuous learning* because
>
> I asked my dad about meditation. I asked because he knows a lot about it because he has
>
> been studying it for his own knowledge. I have trouble with relaxing and breathing when
>
> I am stressing so I like to ask my dad about relaxing more and get advice from my dad.
>
> (Journal Reflection, P1, December 15, 2014)

Clearly, this student understands and can utilize *remaining open to continuous learning*. The

student found a successful way to assist in finding relaxing techniques. In addition, by asking for

help the student is utilizing other habits, for instance, *thinking flexibly*, *listening with*

understanding and empathy, *striving for accuracy*, and *taking responsible risks* in order to better

themself.

Shopping

Most students found the habit of *persisting* to assist in their daily life. Although this habit

was utilized in a variety of ways it was found to be effective in students' ability to complete tasks.

In school *persisting* was helpful in completing assignments and tasks. Outstide of class this habit

was mentioned in relation to participating in sports, chores, jobs, and many other aspects of life.

One journal entry showed the application of this habit to shopping:

> Persisting- Yesterday I was determined to get my Christmas shopping done and I didn't
>
> want to leave until I got it done. While I was in the store holding my list checking it off
>
> making sure I got most of the things on my list. But I will have to finish tomorrow night.
>
> (Journal Reflection, P4, December 15, 2014)

This student was mindful in *persisting* to get the shopping completed that night. Although

getting the shopping done was the goal it seemed that the listed assisted in trying to accomplish

that task the student clarified during an interview:

> I used persisting using a Christmas list for buying gifts. I want to do more lists to
>
> stay organized. The list helps me persist and get shopping done quicker. (Interview, P4,
>
> May 6, 2015)

When the student used the list it helped her persisting on this task. This student is also using the

habit of *creating, imagining, and innovating* by trying a different way of shopping. The

application of *persisting* seemed to have opened up the students mind to other ideas and a feeling

of getting things done.

Cooking

The habit of *gathering data through all senses* was found to be under-utilized within the

study. It was mentioned on occasion in journals although the ability to use the habit was not

often discussed in detail. Applying this habit to real life situations was found to be hard for

students due to the ability to utilize all five senses. Students that did reflect on this habit focused

on primarily one habit and neglected the others. Although one student expressed in detail how

this habit played an important role in cooking for the family:

Gathering data through all senses I used in preparation on Christmas when I made a

habanero turkey. I had to use my senses just to make sure that the turkey taste right.

When I think it is okay and my sister is okay we serve it. (Journal Reflection, P9,

December 15, 2014)

It was apparent that the student was mindful of this habit when cooking the turkey. Although to

make sure that this habit was understood completely while cooking, an interview was conducted

to get more information:

Researcher: Can you clarify this journal and your use of the habit?

Student: Each Thanksgiving dinner with my family, the tradition is to make a habanero

turkey, and I do it. I used five senses to cook it. The smell needs to smell like it is not

burning and smell good. I look at it and it needs to brown and golden. The touch needs to

be burning and hot. I need to hear a sizzle. The taste needs to be spicy and delicious.

The student clearly understands how to use the five senses in order to be successful in cooking

the turkey. The student acknowledged the senses and gave a description for each. While

conducting the interview the student demonstrated confidence and excitement in explaining the

process and how each sense was utilized.

Application Potential Wrap Up

Throughout the study students' commented on their ability to utilize the habits of mind in

real-life settings while giving descriptive examples. Although the habits of mind were discussed

and utilized within the class they transformed into the real life situations for students. When

students demonstrated the use of the habits through their writing it was asserted that the habits

made an impact on their thinking and applicability in their life.

Subject-Based Habits of Mind

The subject-based habits of mind theme was believed to have developed from the beginning to end of the study. As the study progressed certain habits were found to be used more often within different subject areas. Student and teacher journals and focus groups provided descriptive qualitative data about the habits that were found the most applicable. In reference to the objectives and lesson plans for each class, teachers demonstrated the push to use the habits as much as possible. Students' role was to refer to and utilize the habits in learning the course material. Although students and teachers had different roles in class, the opportunity and connection to use the habits that were most related to each subject area were revealed. For each subject area three habits of mind were selected as the most utilized. This information was identified by the researcher as the habits that stood out the most within each subject area.

Mathematics habits of mind

Within math class the three habits that were most presented by the students were*: thinking flexibly, persisting, and applying past knowledge to new situations.* Throughout the study each of the three habits were discussed in a different manner. Most mentioned of the three was *persisting*. One student explained the use of this habit through journaling:

> In class we did a brain teaser. The habits of mind that I used while trying to solve the
>
> brain teaser was *persisting*. I kept focused trying to figure out the answer.
>
> (Journal Reflection, P33, December 18, 2014)

This journal spoke for many of the students' thoughts and ideas in connection to *persisting* with math problems. Most students explained that they worked hard and never gave up on problems or classwork. It is believed that this habit was most used in class due to the struggles math poses for students. In a focus group one math student responded:

> Researcher: What habit of mind do you feel you use most within math class?

Student: *Persisting*, sometimes you don't know what you are doing with problems, you

have to stick to it in order to figure it out. (Focus Group, P34, February 13, 2015)

Clearly, the habit of *persisting* served as a motivating factor for students in math. The ability to

persist with math problems is believed to be an important piece to solving and completing

problems.

English habits of mind

In English class the three most utilized habits were: *listening with understanding and*

empathy, thinking interdependently, and *humor.* Throughout the journals most students identified

with the habits of mind in reference to their readings. It seemed that many students explained the

habits best when making a connection to characters or scenes within their novel. One student

journaled:

I think that August fits *listening with understanding and empathy* the best. Because in the

book August would listening to May one of the characters in the book when she was

having trouble with zach being in jail. She also listened to lily when she was having

trouble. I think that august fits *listening with understanding and empathy* best. (Journal

Reflection, P28, December, 12, 2014)

From this journal it seemed as if the teacher was having the students reflect on the habits of the

characters. In this reflection the student describes how the character August utilizes listening

with understanding and empathy. It is asserted that the student recognized this habit being used

by the character although there seemed to be not much clarification as to how the character

displayed the habit. Another student made a different habit of mind connection with providing

more description:

The character August Boatwrite in the book The Secret Life of Bees, uses the habit of

mind of *thinking interdependently*. She likes talking to Lily when Lily has questions for

her. August helps May with her problems. Every time someone has a problem, August

talks them through it. Like when May has breakdowns, August comforts her.

(Journal Reflection, P26, December 12, 2014)

This student finds *thinking interdependently* to be an important habit within the novel. The

discussion of how August assists with problems, talks through the issues with them, and

comforts, expressed a deeper understanding of the character. Although both students find a

different habit for the same character, it gives an idea of how students develop perspective, and

think about character traits in relation to the habits of mind.

The two reflective journals illustrated the ability to incorporate the habits into subject

area material. This brought forth a different thinking technique within the class and how to gain a

deeper understanding of characters. To gain more insight into this process, an interview was

conducted with the English teacher:

Researcher: Can you clarify the students' journal response from December 12?

HC: I decided to have students select a habit of mind that connected to one of the

characters within the novel. It was shocking to see how the students gained a different

understanding and perspective on the characters. They were not thinking about the basic

characteristics, like kind, nice, smart, etc. The habits made them think about what made

a character stand out. I loved this approach to character development.

(Interview, HC, May 6, 2015)

The habits showed that they can be used in a different way than simply talking about them and what they look like. Clearly, the teacher found a unique way to incorporate the habits into the reading of a novel.

History habits of mind

Within history class students reflected on a variety of habits and how they connected to the assignments. The described habits used within the classroom illustrated the thinking and learning process. It was asserted that students could make a connection between the habits and why the habits were important for their learning. The three habits most discussed and utilized were: *thinking interdependently, striving for accuracy,* and *applying past knowledge*. One student reflected:

> During this past week, I used the *thinking interdependently* for the Civil War project. My partner and I would work by ourselves on our own project, and then when we got stuck we would ask a classmate for help. (Journal Reflection, P21, January 20, 2015)

The opportunity for this student to *think interdependently* with a classmate brought forth the understanding and importance of this habit with the project. Although working alone was the goal for these students, having the option to *think interdependently* when they got stuck seemed to have been effective for them.

Science habits of mind

Throughout the study it was revealed that the science teacher created multiple lessons that gave opportunity for students to utilize the habits of mind thinking. Through the journals it was clear that the teacher was aware of what habits were being presented. For example, within an activity on locating biodiversity hotspots around the world, the teacher expressed two habits to be cognizant of:

I tried to express to them the importance of using the habit of mind- *thinking and*

communicating with clarity and *precision* as they prepare for their presentations. They

should also work on *thinking flexibly* as they discover the possible threats to these areas

but also consider what can be done to help them remain on the earth in their current state.

(Journal Reflection, HB, February 18, 2015)

Clearly, the teacher made sure that those two habits were important to successfully complete the

activity. It was implied that if students were using *communicating with clarity and precision* in

their presentations, and *thought flexibly* on the topic, the learning would show. In an interview

with the teacher she expressed the importance of the habits in the biodiversity presentation and

varying them throughout the study:

I realized that students have worked a lot throughout the study with many of the

habits. In this activity I wanted them to really think about the habit of *thinking and*

communicating with clarity and precision and *thinking flexibly*. I matched these two

habits with those two parts of the assignment. It went really well. In the study I tried to

match many of the habits with activities I created. Exposing students to as many (habits)

as I can allowed for a different approach to learning the material. (Interview, May 6,

2015)

The teacher expresses that she had a positive experience with the habits and has incorporated

them into the classroom as much as possible.

What the science students' say?

It was clear that the science teacher provided many opportunities for students to work

with the habits in class. Giving exposure to the habits was a big factor for the science teacher in

the study. The opportunities to use the habits in science class were recognized from the journal

and focus group discussions. Within science the habits of mind most utilized by students were: *listening with understanding and empathy, striving for accuracy,* and *managing impulsivity.* One student referenced the importance of *listening with understanding and empathy* in a journal:

> In class we read a story of a girl who had a lot of baby girls but she had to have more boys by her mother in law telling her. We *listened with understanding and empathy* and we felt very sad for her to get married and have babies at age 14 or 16.
>
> (Journal Reflection, P1, January 12, 2015)

This shows that the habit of *listening with understanding and empathy* brought more clarification to the story. The journal expressed the idea trying to comprehend what is taking place and the emotional aspect of the characters in the story. It seemed as if this story impacted the student's ability to understand the concept of the lesson.

Positive changes with the habits

For each of the themes expressed above, the habits of mind were believed to have impacted the learning and teaching within each subject area course. The use of interviews and journals gave a multitude of insight into the reflective thinking of both students and teachers. Although some habits were discussed more than others, it seems that each habit was explored. Utilizing a qualitative approach to explore perceptions and preferences of the habits of mind as they relate to the themes brought forth insight and allowed for rich descriptive data from all participants.

Habits of Mind Rating Scale

On the first day of the study an initial survey was given to students and teachers in the form of an electronic Habits of Mind Rating Scale. A total of 41 students and 4 teachers participated in this activity. At the end of the study all prior participants completed an identical

rating scale. The findings from these two identical scales evidenced that both students and teachers made significant growth in their understanding and application of the Habits of Mind. Numerical and anecdotal data are displayed within the rating scales to give a broader understanding to the perceptions and perspectives of the participants. Incorporating a comment box for each Habit of Mind allowed students and teachers an opportunity to better explain their rating selection.

For each Habit of Mind, a description of the habits was provided. All participants were asked the following: On a scale of 0-10 (0 being the lowest and 10 being the highest) select the number that best represents your feelings on how you behave towards this habit. In this section only selective Habits of Mind will be analyzed and discussed in detail in relation to the rating scale. The two habits that showed the most growth, and two habits that revealed least growth, will be discussed for both students and teachers. This will give an understanding in the thinking and reasoning of participants and their selections of these habits.

Throughout this section it will be important to understand the term *weighted average*, which represents the average response taken from the rating scale of the total number of participants. The weighted average will be out of 41 students, 4 teachers, and will range somewhere between 0-10. Although some of the student scales will vary being that students had the choice to not rate certain or all habits.

Students
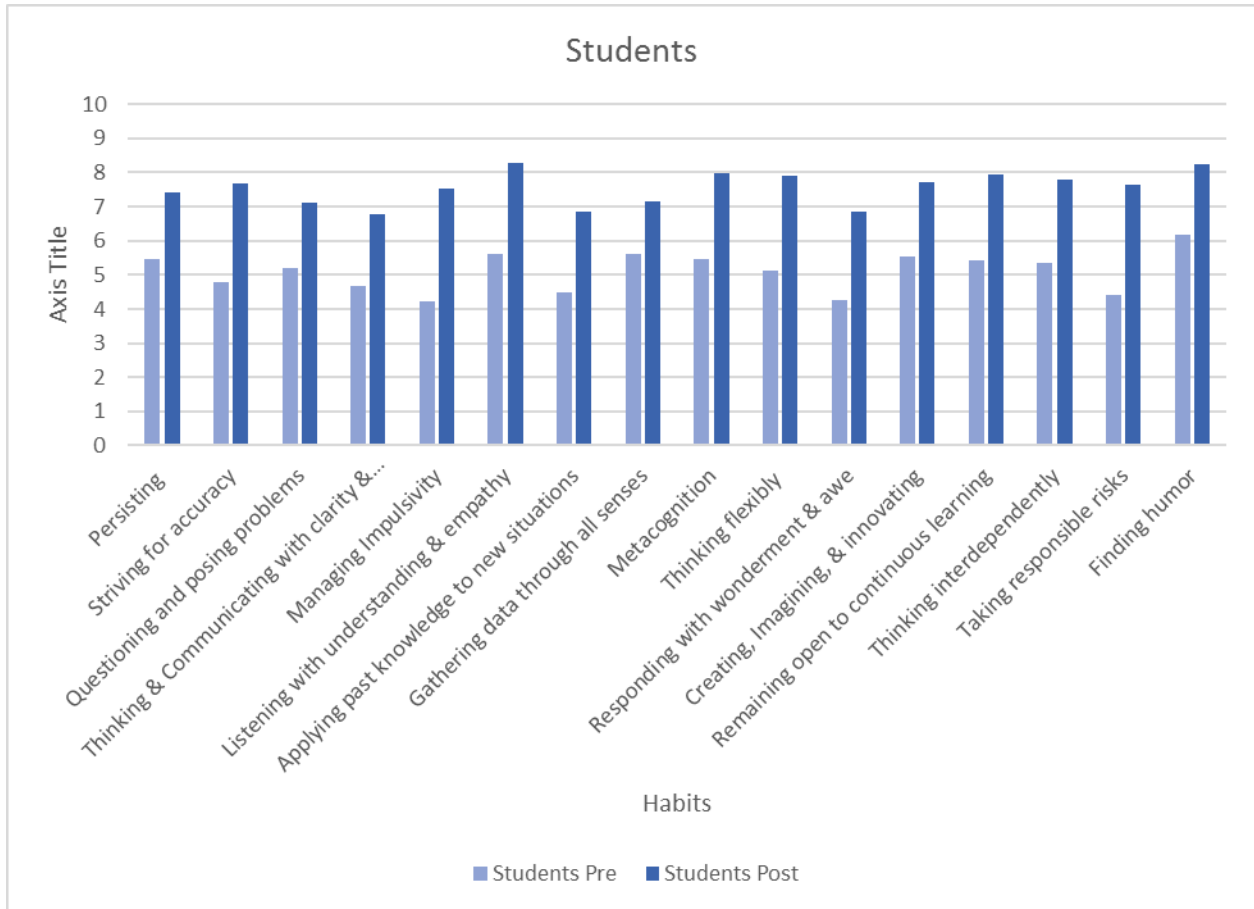
Figure 1. Students Pre- & Post Habits of Mind Rating Scale

Habits of Most Growth

Managing impulsivity

I manage my impulses and am willing to delay gratification to attain long-term goals. I think before acting.

The pre-rating scale for managing impulsivity shows a weighted average of 4.22, the lowest average of all habits. Of all students, 24.39% (10 students) felt that they almost never manage their impulsivity, this being the highest average rating for this habit (refer to scale below).

I manage my impulses and am willing to delay gratification to attain long-term goals. I always think before acting. Comments (12)	4.88% 2	7.32% 3	24.39% 10	9.76% 4	9.76% 4	14.63% 6	7.32% 3	0.00% 0	17.07% 7	4.88% 2	0.00% 0	41	4.22

One student commented, "I manage my impulses when it comes to certain things but when I am not doing those certain things I almost never think before I act," (Rating Scale, December 8, 2014). The student recognized this as a habit that needed to be worked on.

The post-rating scale for managing impulsivity displays a weighted average of 7.54. This revealed a 3.32 weighted average increase from the beginning of the study.

I manage my impulses and am willing to delay gratification to attain long-term goals. I always think before acting. Comments (9)	0.00% 0	0.00% 0	0.00% 0	4.88% 2	7.32% 3	2.44% 1	9.76% 4	17.07% 7	17.07% 7	31.71% 13	9.76% 4	41	7.54

From the increase it seems that students felt that they had made a significant jump in their behavior toward implementing this habit. One student wrote, "Whenever I have some sort of conflict with a friend or something doesn't go how I wanted, I try to keep my cool and think things over" (Rating Scale, May 8, 2015), thereby showing less impulsivity.

Taking responsible risks

I am willing to take calculated and responsible risks to venture into the unknown and to try new ideas and strategies.

Student pre-rating scale for taking responsible risks presented a weighted average of 4.41. Of all students, 17.07% (7 students) felt that they sometimes take responsible risks (refer to scale

below).

I am willing to take calculated and responsible risks to venture into the unknown and to try new ideas and strategies. Comments (7)	4.88% 2	9.76% 4	14.63% 6	7.32% 3	12.20% 5	17.07% 7	9.76% 4	14.63% 6	4.88% 2	2.44% 1	2.44% 1	41	4.41

One student commented, "I don't like to try new things that often and usually end up reverting back to my old habits," (Rating Scale, December 4, 2014). It is implied that this student seems fazed by taking risks although does try sometimes.

The post rating scale for taking responsible risks displays a weighted average of 7.64. An increase weighted average of 3.23 throughout the study was shown. Although only 39 students choose to rank this habit of mind, the numbers show a dramatic increase from the pre-rating scale. Of all students who rated this habit, 33.33% (13 students) feel they strongly behave in utilizing taking responsible risks.

I am willing to take calculated and responsible risks to venture into the unknown and to try new ideas and strategies. Comments (7)	0.00% 0	0.00% 0	2.56% 1	0.00% 0	7.69% 3	7.69% 3	2.56% 1	12.82% 5	33.33% 13	15.38% 6	17.95% 7	39	7.64

From the increase it seems that many students felt better in their ability to take responsible risks. One student commented, "I like to try new things, if it works it can help me in the future," (Rating Scale, May 6, 2015). This student gives the impression that they understand the importance of taking responsible risks in life in order to better themselves.

Habits of Least Growth

Questioning and posing problems

I ask questions, search for data to support conclusions, and inquire into intriguing ideas.

I have a questioning attitude.

Students pre-rating scale for questioning and posing problems presented a weighted average of 5.20%. Of all students, 26.83% (11 students) feel that they almost never behave towards this habit of mind. This low ranking indicates that this habit is not one that students feel connected with or use.

| I ask questions, search for data to support conclusions, and inquire into intriguing ideas. I have a questioning attitude. Comments (9) | 2.44% 1 | 2.44% 1 | 26.83% 11 | 7.32% 3 | 2.44% 1 | 9.76% 4 | 14.63% 6 | 7.32% 3 | 9.76% 4 | 4.88% 2 | 12.20% 5 | 41 | 5.20 |

One student commented, "I search for answers to questions that I ask all the time but sometimes just don't feel like getting the answer," (Rating Scale, December 4, 2014). The student seems to recognize they have the ability to get the answers but don't follow through.

The post rating scale displays a weighted average of 7.13. An increase weighted average of only 1.93 was shown from the beginning to end of the study. Only 39 students chose to rate this habit, the increase of shows minimal change.

| I ask questions, search for data to support conclusions, and inquire into intriguing ideas. I have a questioning attitude. Comments (9) | 0.00% 0 | 0.00% 0 | 0.00% 0 | 10.26% 4 | 7.69% 3 | 10.26% 4 | 5.13% 2 | 15.38% 6 | 12.82% 5 | 25.64% 10 | 12.82% 5 | 39 | 7.13 |

Although the weighted average shows little increase, 25.64% (10 students) rated this habit toward the high end of the scale. One student commented, "If you do not ask questions nothing may become clear to you, and you could be doing something wrong the entire time. Asking just a simple question makes all the difference," (Rating Scale, May 8, 2015). It seems that this student behaves using this habit of mind in real life situations and that it has made an impact in their life. Another student commented, "I find myself asking tons of questions in science class. It is my favorite subject and I have major interest in finding out more information" (Rating Scale, May 8,

2015), thereby showing the ability to use this habit to build on their knowledge in the subject of science.

Gathering data thorough all the senses

I use all my senses (sight, hearing, touching, smelling, tasting) to learn. I gather data through all of these senses.

Student pre-rating scale presents a weighted average of 5.63. The rating numbers for the scale are spread out with no significant high rating indicating that all students' behavior towards this habit varies. Although, more students show that they gather data through all the senses than students who sometimes or never do.

I use all my senses (sight, hearing, touching, smelling, tasting) to learn. I gather data through all of these senses. Comments (9)	7.50% 3	7.50% 3	5.00% 2	12.50% 5	2.50% 1	10.00% 4	12.50% 5	5.00% 2	12.50% 5	12.50% 5	12.50% 5	40	5.63

One student commented, "I don't really use smelling, or tasting, but I do use hearing because I watch videos and touching" (Rating Scale, December 4, 2015). It seems that this student does not understand and know how to use this habit of mind. Although this student make reference to smelling, tasting, and hearing, their comment does not convey a clear understanding of this habit.

Student post rating scale showed a weighted average of 7.17, with an increase of 1.54% from beginning to end of the study. The pre-rating scale (refer to scale below) shows that 35 students feel they behave sometimes and always towards this habit.

I use all my senses (sight, hearing, touching, smelling, tasting) to learn. I gather data through all of these senses. Comments (5)	0.00% 0	0.00% 0	0.00% 0	5.00% 2	7.50% 3	15.00% 6	10.00% 4	15.00% 6	12.50% 5	17.50% 7	17.50% 7	40	7.17

Although students showed an increase in their behavior and understanding of this habit, the comments from students were not as clear as they should have been. All comments did not show that student completely understood all the senses. For example students' commented, "I listen to people when I want to know", "I really don't smell or taste when I research", "I use more touching than any other senses" (Rating Scales, May 6, 2015). These comments indicate that students have an understanding of some of the senses, although it seems that they cannot exhibit these behaviors.

Teachers
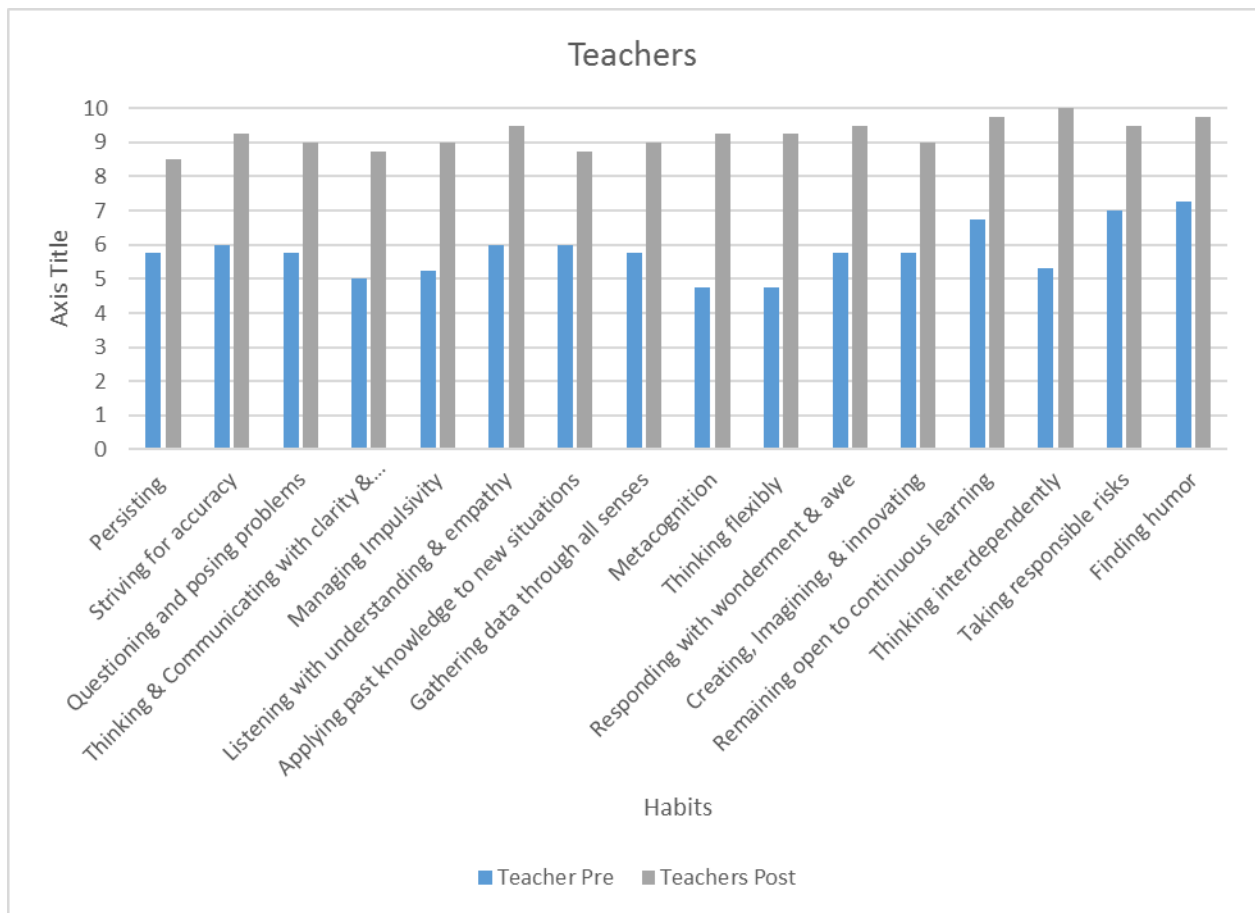
Figure 2. Teachers Pre- & Post Habits of Mind Rating Scale

Habits of Most Growth

Metacognition

I am aware of how I am thinking (metacognition) when I am trying to solve a problem. I am aware of my thoughts, strategies, feelings and actions and their effects on others.

The teacher pre-rating scale for metacognition presented a weighted average of 4.75. One of the four respondents rated themselves a 0 on the scale, indicating that they never behave toward this habit.

I am aware of how I am thinking (metacognition) when I am trying to solve a problem. I am aware of my thoughts, strategies, feelings and actions and their effects on others. Comments (0)	25.00% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	50.00% 2	0.00% 0	0.00% 0	0.00% 0	25.00% 1	0.00% 0	4	4.75

Although no participants commented, it seems from the scale above that metacognition was habit teachers did not feel comfortable with in the beginning of the study.

Teacher post-rating scale presented a 9.25 weighted average for metacognition. All four teachers rated themselves a nine or higher on this scale. A significant difference of 4.50% from the pre- to post-rating scale is shown (refer to scale below).

I am aware of how I am thinking (metacognition) when I am trying to solve a problem. I am aware of my thoughts, strategies, feelings and actions and their effects on others. Comments (1)	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	75.00% 3	25.00% 1	4	9.25

It is clear that teachers showed an overall positive shift in weighted average. This insight shows growth about teachers' feelings on their behavior using metacognition in the classroom. One teacher commented, "I always think about my lessons and how they can be more effective"

(Rating Scale, May 5, 2015). This teacher highlighted the ability to think about how to be a better teacher and improve on lessons in order for student learning to be more effective.

Thinking flexibly

I am a flexible thinker. I seek new and different perspectives and can change my mind. I try to look at things in another way.

Teacher pre-rating scale for thinking flexibly presented a weighted average of 4.75. Two teachers rated themselves at the lower end of the scale (1 & 3) while the other two gave a rating of (6 & 9).

I am a flexible thinker. I seek new and different perspectives and can change my mind. I try to look at things in another way. Comments (0)	0.00% 0	25.00% 1	0.00% 0	25.00% 1	0.00% 0	0.00% 0	25.00% 1	0.00% 0	0.00% 0	25.00% 1	0.00% 0	4	4.75

There were no comments from teachers on this habit of mind. It is implied that teachers did not think about this habit enough, or could not write about their use of this habit.

Teacher post-rating scale presented a weighted average of 9.25. All four respondents rated themselves toward the high end of the scale (9 & 10). A significant difference of 4.50% weighted average is shown from the start to end of the study.

I am a flexible thinker. I seek new and different perspectives and can change my mind. I try to look at things in another way. Comments (2)	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	75.00% 3	25.00% 1	4	9.25

Two teachers were able to express their behavior and understanding in utilizing thinking flexibly. One teacher commented, "I try to give my students a voice in their education. I offer them

opportunities to create projects instead of traditional objective tests" (Rating Scale, May 10, 2015). It is implied that the teacher is trying to give the students opportunities to think outside of the box in learning new concepts. This approach allows teachers and students to explore learning in a different way therefore evoking the ability to think flexibly. Another teacher commented, "I realized my method for test taking needed to change for my resource level class and I was seeking new ideas" (Rating Scale, May 5, 2015). For the teacher it is clear that thinking of a different approach for testing was important in a resource class. This shows that the teacher is mindful of this habit and using it for enhancing student assessments.

Habits of Least Growth

Taking responsible risks

I am willing to take responsible and calculated risks to venture into the unknown and to try new ideas and strategies.

The teacher pre-rating scale for taking responsible risks presented a weighted average of 7.00. For this habit only three teachers rated themselves on the scale.

▾ I am willing to take calculated and responsible risks to venture into the unknown and to try new ideas and strategies. Comments (0)	0.00% 0	0.00% 0	0.00% 0	33.33% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	33.33% 1	0.00% 0	33.33% 1	3	7.00

Two of the three teachers rated themselves at the higher end of the scale indicating that they feel comfortable in behaving toward this habit. No teachers commented on this pre-rating scale.

Teacher post-rating scale presented a weighted average of 9.50. A difference of only 2.50% is shown from start to finish of the study. This time all four teachers rated this habit at the high end of the scale indicating that they all feel comfortable behaving and utilizing the ability of taking responsible risks.

▼ I am willing to take calculated and responsible risks to venture into the unknown and to try new ideas and strategies. Comments (1)	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	50.00% 2	50.00% 2	4	9.50

One teacher commented, "I tried three new labs this year to try new ideas of how to teach certain material" (Rating Scale, May 5, 2015). This teacher highlighted the use of taking responsible risks by trying something different within her teaching.

Finding humor

I can laugh at myself and find humor in many situations. I refrain from belittling or making fun of others.

The pre-rating scale for finding humor shows a weighted average of 7.25. Of all four teachers, only one rated themself at a three on the scale (refer to scale below).

▼ I can laugh at myself and find humor in many situations. I refrain from belittling or making fun of others. Comments (1)	0.00% 0	0.00% 0	0.00% 0	25.00% 1	0.00% 0	0.00% 0	0.00% 0	25.00% 1	0.00% 0	25.00% 1	25.00% 1	4	7.25

The teacher who rated themself a three commented, "I laugh at myself often but I learn from it as well" (Rating Scale, December 5, 2015). Although the teacher makes reference to being able to laugh at themself, it seems that they are not able to clarify their thoughts about how they learn from humor.

Teacher post-rating scaled presented a 9.75 weighted average. All four teachers rated themselves at a nine or higher on the scale. A difference of 2.50% is shown from beginning to end of the study.

I can laugh at myself and find humor in many situations. I refrain from belittling or making fun of others. Comments (2)	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	25.00% 1	75.00% 3	4	9.75

One teacher commented, "There is nothing more important for me as a teacher than to make fun of myself. Students connect with me after a self-deprecating story about something that happened to me better than any other student/teacher engagement technique" (Rating Scale, May 10, 2015). It is clear from this statement that the teacher finds humor to be an important habit within their teaching. The ability to use humor is a way from this teacher to engage students into learning and an important teaching approach.

Habits of Mind Rating Review

Habits	Students Pre	Students Post	Teacher Pre	Teachers Post
Persisting	5.46	7.41	5.75	8.5
Striving for accuracy	4.8	7.68	6	9.25
Questioning and posing problem	5.2	7.13	5.75	9
Thinking & Communicating with	4.68	6.76	5	8.75
Managing Impulsivity	4.22	7.54	5.25	9
Listening with understanding &	5.61	8.27	6	9.5
Applying past knowledge to new	4.49	6.85	6	8.75
Gathering data through all sense	5.63	7.17	5.75	9
Metacognition	5.47	7.97	4.75	9.25
Thinking flexibly	5.13	7.9	4.75	9.25
Responding with wonderment &	4.27	6.85	5.75	9.5
Creating, Imagining, & innovatin	5.53	7.7	5.75	9
Remaining open to continuous l	5.44	7.93	6.75	9.75
Thinking interdependently	5.35	7.79	5.33	10
Taking responsible risks	4.41	7.64	7	9.5
Finding humor	6.17	8.24	7.25	9.75

Figure 3. Student and teacher pre- and post-rating scores
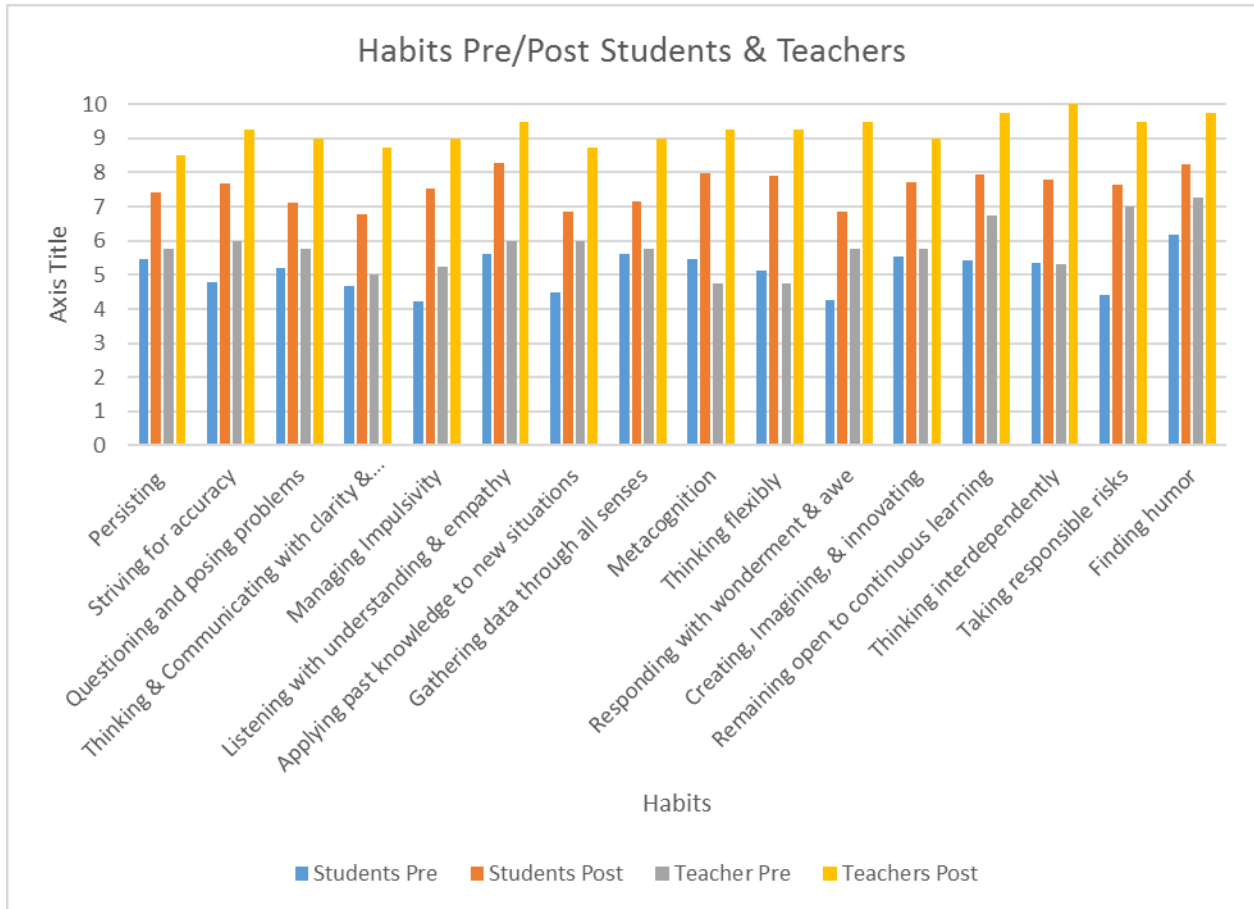
Figure 4. Habits of Mind Pre- & Post Rating Scale

The habits of mind in the charts above represent numerical change from the beginning to the end of the study. Although selected habits chosen in the last section show the most and least amount of growth throughout the study, the charts display all the numbers for each habit. Having the ability to visually recognize the numerical growth of each habit with both teachers and students gives a clear picture of all sixteen habits.

Summary

The presentation of findings in this chapter revealed a growth in development and understanding of the habits of mind for both students with a learning disability and special education teachers. For teachers the approach to incorporating the habits into curriculum and

lesson plans brought forth the opportunities to explore and discover a new teaching practice within their subject area. Teachers demonstrated and expressed their thinking and learning by reflecting about using the habits. The students demonstrated positive gains from the habits of mind instruction by way of their ability to explain how they utilized the habits in and outside of the classroom. This continuum of teaching with the habits allowed students to investigate and recognize what habits work best for them in their school and daily life.

Within the study themes illustrated both teachers and students in-depth experience with the habits of mind. Mindfulness was a theme that spoke to each participant in how being cognizant with in their thinking with the habits did make a change in their lives. Exhibiting awareness of the habits when the opportunities arose displayed significant and beneficial meaning to the study for students and teachers. This started with teachers as they explored the habits within their teaching practice. As this practice continued in class on a daily basis the building of a community began to form where both teachers and students were using the habits. Self-confidence was found to build within the students throughout the study. As confidence grew so did the ability to apply the habits into their life outside of the classroom. Finally, the opportunity to bring out all these themes within the study allowed the ability to identify how the habits best fit within each subject area.

Further examination of the rating scales and charts are telling of the increased understanding and behavior toward each Habit of Mind. Further discussion regarding the conclusions and implications of this study are included in the following chapter.

Chapter 5

Summary and Discussion

The goal for this Mixed Methods research study was to gather perceptions on the development of Costa & Kallick's Habits of Mind in subject area resource classrooms with special education teachers and students with learning disabilities. To obtain this goal multiple methods were used in gathering the data necessary to answer the research questions for the study. The findings included responses to the following qualitative and quantitative research questions: What are students with learning disabilities' perceptions of Costa & Kallick's Habits of Mind in connection to learning within a resource room subject area? What are special education teachers' perceptions of their teaching practice and student learning in relation to Costa & Kallick's Habits of Mind within their resource classroom subject area? Is there a difference for students with learning disabilities and special education teachers of a subject area resource room in the application and preference of certain Habits Mind? These research questions will be answered according to the findings from reflective journals, focus groups, interviews, and pre- and post habits of mind rating scales.

This phenomenological research study focused on freshmen and sophomore students with learning disabilities and special education resource room subject area teachers. The public high school is located in the northeast region of the United States. A total of 41 students (with IRB consent) and 4 teachers (with IRB consent) met the criteria at the beginning of this study. All students in each class wrote a weekly journal reflection in response to a consistent prompt: "Explain a habit of mind that you feel you demonstrated in your class this past week", and "Explain a habit of mind that you feel you demonstrated outside of your class this week". Teachers within the study completed a weekly journal reflection with this consistent prompt:

"Explain what habits of mind you feel were exhibited by your students and how your teaching with the habits supported your students learning". Three focus groups consisting of four different students within each subject area resource classroom participated. Teacher and student interviews were conducted as needed to clarify journal reflections. At the beginning and end of the study a pre- and post-rating scale on the habits of mind was conducted. Both identical rating scales required students and teachers to rate each habit of mind according to this prompt: On a scale of 0-10 (0 being the lowest and 10 being the highest) select the number that best represents your feelings on how you behave towards that habit.

This chapter first reviews the findings as they correspond to the research questions and goals of the study. Next, the discussion, implications of the findings, limitations and future research will be discussed. Last, will be a conclusion on this phenomenological action research study.

Review of the Findings

The major findings of this study reveal information that can enhance and build upon both learning and teaching for students and teachers. In connection to the research questions and goals for the study the results presented growth and success in five areas. Each area links to the research questions and goals for the study. The findings that emerged throughout the study were: positive perceptions of students, teacher perspectives on habits enhancing the classroom, selective subject area habits, reflection and growth, lifelong habits, and the global nature of the habits of mind.

Perspectives of the students

Throughout the study the perceptions of the students concluded that Costa & Kallick's Habits of Mind were effective and beneficial in connecting to the learning within the classroom.

Most of students' reflective journals made reference to the importance of the habits of mind within their learning. Students were able to intertwine subject area material and the habits to assist in their learning. As the study progressed the ability for students to transfer the use of the habits within other classes was apparent. In supporting Costa & Kallick (2009, p.3), this finding connects to the transdisciplinary use of the habits of mind across every subject area. Interviews to clarify certain journal entries about the habits reinforced students understanding and application both in and outside of school. This result supports Costa & Kallick's belief that in order for the habits to be successful one needs to incorporate them in everyday life while reflecting and evaluating their use of them. Last, the selective student focus groups were able to discuss their ability in using the habits with other peers hence giving an opportunity to communicate with others on the topic. All group reflections opened up paths of listening and communicating about the habits used within different subject areas. The enlightening perspectives of the students was apparent through focus group discussions as students showed enthusiasm and interest in presenting their thoughts and ideas, as well as learning from others.

Habits enhance the resource classroom

The teachers' reflective journals and interviews concluded that the habits were not only effective in teaching and learning but in regard to other areas of the profession. All teachers articulated the importance of the habits within their lesson plans, by allowing students to think and use the dispositions effectively, and bringing forth deeper reflection in response to pedagogy. This is similar to Danielson's (2007) idea that when a teacher analyzes their pedagogy and reflects on daily instruction, this becomes a habit of mind. All reflections showed signs that each teacher was developing and instituting the habits into the class.

Other areas of teaching discovered was the impact the habits had on classroom

management, student behavior, and learning, which in turn added to the success of students. This

supports the idea that teaching the habits of mind to students with behavioral issues and learning

disabilities is beneficial in promoting learning and cognitive strategies (Martin, 2001, pg. 31).

Most teachers noticed an increased level of understanding with students on the course material

being taught. The reflective writing of teachers allowed for evaluating and analyzing their use of

the habits within their teaching. Teacher interviews provided greater detail about their use of the

habits and students' ability to learn with them. Teaching approaches were found to be an

important aspect within presenting the habits in activities. The idea of modeling the habits was

found to be successful within teaching and students ability to see the habit being portrayed. This

result supports that modeling good disposition and character is believed to have a direct effect on

students (Osguthorpe, 2008). As Costa & Kallick claim, "one of the most influential ways

students learn the habits of mind is through teacher modeling (2009, p.3). Interviews and journal

reflections supported this finding with teachers.

Subject area related habits of mind

The next finding reflected the choice and application of certain habits of mind used over

others within subject area classes. Although selective habits were found to be used more often

than others, no habit was found to be unanimously chosen in each class. Students spoke and

wrote about certain habits that they used more often than others in their classes. As for teachers,

the same findings were found in relation to teaching. The current research in this paper supports

the idea that "through instruction and practice with the habits of mind within subject curriculum,

students are taught and guided through metacognitive thinking processes with the goal of

acquiring dispositions as independent problems solvers" (Sauders-Stewart, Gyles, & Shore,

2012). For most participants it was found that they connected with certain habits of mind that they felt comfortable using in solving problems, completing activities, and in thinking and learning.

Reflection and growth

The finding of all participants reflecting on their thinking and learning with the habits of mind was recognized throughout the study. Rating scales from the beginning to the end of the study showed significant growth in all habits. As teachers reflected an increase in understanding of the habits of mind was apparent through their ideas, development, and consistency in using this new teaching approach. Each reflection consisted of explaining about a habit(s) that they used within a classroom activity and/or lesson. Teachers felt that they developed a habits of mind culture within their classroom, meaning that all students were thinking and using the habits daily in their class. This supports the idea that when individuals use habits in daily life and with automaticity and without prompting, the true meaning of an internal compass is defined (Anderson etc. al, 2008). Teachers all believed that the conversations and discussions on the habits of mind were fruitful and informative in class.

Lifelong habits

This finding showed the students' ability to be able to recognize and connect the habits of mind to various situations. Although it was concluded that the habits were found to be effective within and outside of the classroom for students, the goal was for them to continue with these habits in real life. Journals informed that students felt confident with the habits and using them in in future classes, and most importantly, in their life. It was imperative for students to reflect on how they used the habits outside of the classroom. Many students found that the habits play an important role in their daily life. For students with learning disabilities the idea of developing

lifelong habits is important for their future. This supports the idea that by integrating 21st century skills, content information, and habits of mind, students will be better prepared for learning rigorous content and in entering the work force (Cobb-Morocco, 2001).

Global nature of the habits of mind

The common finding throughout the study was the idea of shared understanding and common language with the habits of mind. Throughout the study findings in common rehearsal, use, and reflection with the habits of mind for both students and teachers expressed similar patterns of understanding and utilization. This commonality led to an understood common language in which students and teachers learn, teach, and grow together. All students and teachers developed this common language through implementation, instruction, reflection, and discussions. Structured opportunities with the habits progressively seemed to build a shared culture and community around the habits of mind. This global nature with the habits of mind has proven that it can extend to all students and teachers within a school. With structured habits of mind opportunities a whole district implementation is possible.

<div align="center">

Discussion

</div>

The purpose of this study was to gather the perceptions and perspectives of Costa & Kallick's Habits of Mind for students and teachers. The rationale for this exploration was to find how the habits played a role into the teaching and learning of teachers and students. Throughout the study the glue that seemed to make this instruction and use of the habits of mind work was the rehearsal and reflection on each of the habits. In addition, themes emerged throughout the study that were equally important as the research questions. This discussion piece will link to the themes and findings found during this study.

Themes of the Habits

The focus of the habits of mind began with an introduction and explanation of each habit to participants. Some teachers and students had heard of the habits of mind although never completely utilized them daily in and outside of school. It was interesting to find that through the study six themes emerged. This finding was intriguing due to the main focus being on answering the research questions.

Through research the theme of metacognitive awareness emerged with both teachers and students. As referenced by Costa & Kallick (2009, p.61), when students develop their alertness, they will become more self-directed and apply the appropriate habits spontaneously. This finding was shown by students being aware of their behaviors, presenting information, attitude, thinking before acting, and staying mentally focused. As the study progressed it was found that students were presenting these behaviors more often, as mentioned by their teachers. This supports the idea that as students become independent learners, their ability to learn and understand their successful habits becomes natural (Aull & Shore, 2008).

Exploration was found to be another theme that came forth. This theme emerged primarily from the teachers throughout the study. It was found that teacher reflections focused on a different aspect of teaching. Classroom management, lesson planning and activities, modeling, and group work was established as areas most explored by teachers. The significance of this theme provides evidence that teachers found an area where the habits of mind enhanced their teaching practice.

The building of community theme was established as important in the ability to bring forth the habits of mind thinking within all participants. The idea of community building was found to be a driving force and addressed an importance of bonding together as a class or with another group. This theme supports Costa & Kallick's (2009) idea that when the habits of mind

are infused into a classroom and/or school with both teachers and students, the more lived and infectious the habits will become.

The self-confidence theme was found important to all participants in their ability to utilize the habits of mind with conviction and certainty. This theme showed that students and teachers were able to transform the habits into real life situations. Students and teachers were able to use the habits with confidence which was found to have made an impact on their thinking and ability to apply the habits of mind. With the consistent use of the habits comes the building of confidence.

Next, being able to apply the habits of mind into their life was established by both students and teachers. The application factor was found to play an integral role in jobs, sports, classrooms, and other scenarios within a participants' daily life. Being able to apply the habits and use them effectively was found to be an important factor within all participants' lives. In connection to the literature review this idea supports Costa & Kallick's finding that, "the skillfulness to carry out, use, and incorporate the habits and skills in everyday life requires reflection and evaluation in order to carry them forth in the future (2008, p.17). With consistent application of the habits of mind it was found that this goal can be achieved.

Last, it was found that subject-based habits of mind were found with teachers who demonstrated the push to use the habits as much as possible. Students' showed similar findings in that they used the habits as much as possible and more often within each course. This theme assisted in answering the research question on application and choice of certain habits of mind.

Implications for Practice

Implications of this study reveal a need to continue researching and exploring how to incorporate the habits of mind into curriculum. The significance of this study was to develop and

incorporate Costa & Kallick's Habits of Mind into students with a learning disability. Earlier in this paper Burgess (2012) states, that "students with a learning disability are not considered to benefit from intelligent behavioral skills". From the study it was found that students did in fact benefit from the habits of mind, also likened to intelligent behaviors, within learning and in the real world. The theme of application potential revealed that students were able to successfully internalize and apply the habits of mind to real life situations with confidence, comfort, and conviction. Recognizing that students progressed with the habits was telling of the importance to committing time and effort in working continuously with the dispositions. Costa & Kallick (2008) make reference to the significance of utilizing the habits of mind on a consistent basis in order from them to be refined and effective. This finding has given some insight into the potential that the habits of mind can have on not only students with learning disabilities, but all students. The rehearsal and reflection of the habits from both teachers and students elicited more intentional use and a heightened awareness in using the habits of mind within the classroom.

Through reflective practice with the habits of mind it was found that students built up their ability to write and express their ideas. This provided an opportunity for students to think about their learning and what habits work best for them in and outside of the classroom. As mentioned earlier in the paper, Cobb-Morroco (2001) states, "successful classroom work is shown when students with a learning disability interview with peers or teachers, engage in mindful problem solving, and journal on their thought process, all which allows them to rehearse their thinking process". Most students and teachers were able to express metacognitive awareness with the habits of mind within their writing, discussions, activities, and actions. By revisiting the habits of mind on a consistent basis students were able to rehearse and reflect on their use of the habits. The theme of metacognitive awareness connects to Costa & Kallick's

(2009) idea that the habits of mind serve as an internal compass. By teachers reinforcing the habits on a daily basis, the hope is that students will use them with automaticity and habitually without prompting (Anderson etc. al, 2008). For both teachers and students with learning disabilities, when they rehearse their thinking process, learn with the habits of mind, and develop an internal compass as a guide with these dispositions, the more potential will show in their success as a learner and teacher.

The opportunity for all teachers to utilize the habits of mind in their classroom was a significant part of the study. Within the theme of subject-area habits, discovering that many habits applied to each course implied that all students across every grade level can benefit from the habits in order to build upon their thinking and learning. According to Aull & Shore (2008) the idea that successful habits occur when students become more independent learners gives importance to infusing the habits of mind into all subject areas and curriculum at an early age. Recognizing that students and teachers showed similar patterns of understanding with the habits in class lead to a common language within instruction and comprehension of material. When teachers use the habits consistently and make it part of the classroom culture, the more students will connect, understand, and benefit from the habits in their learning.

To further the idea of subject-area habits, the infusion of these dispositions within the content and culture of the classroom helps develop an overall deeper understanding. As mentioned earlier by Costa & Kallick (2009, p.3), the habits of mind are meant to be transdisciplinary, meaning that they have nothing to do with a particular subject, instead focusing on the habits of mind being applied across every subject area. When teachers intertwine the habits into the curriculum, instill proper dispositions into lessons and activities, and use them within the language of the classroom, this bring forth a bigger picture than just learning course

objectives and standards. Building a community where dispositions are recognized with a shared

goal, function, and common language, is the global idea with the habits of mind. Costa & Kallick

(2008) express the idea that when the habits of mind are displayed and practiced throughout the

whole school, a culture and sense of unity is built. By making connections with the habits in

school and other aspects of life, will not only benefit student in learning, but most importantly,

life in the real world. The attitudes and behaviors that students learn through the habits of mind

will assist in their life success and endeavors that lie ahead of them.

Limitations of this Study

The main focus of the study was to work with students with a learning disability and

special education teachers to find out if the habits of mind supported the literature. A few

drawbacks included generalizability and longitudinal effects.

With regard to generalizability, this study focused on 41 student and 4 teachers within a

high school in New Jersey. Including a wider sample at the high school level may have produced

more insight and information. In addition, including various levels of education from elementary,

middle, and high school levels with all populations may have provided gainful insight and

influenced the research findings.

Limiting the study to eight weeks could have impacted the results. During that time a

winter holiday break, snow days, and a national holiday took place which could have affected

continuity with the utilization of the habits of mind. In addition, the site school runs on an AB

day schedule, meaning that classes meet every other day. Future research might replicate a

similar study over a longer period of time, possibly a whole year. The extended period of time

could result in more impactful findings due to the length of a whole course from start to finish.

Future Research

All the information found within the study deemed important to the learning and teaching of students and teachers. The significant findings in this study with both quantitative and qualitative data could lead to an opportunity to further investigate the habits of mind in many other areas of education. Further research may include; elementary school levels, full year study, building a school culture, developing a habits of mind teacher evaluation, and incorporating the habits into disciplinary behavior models.

Both Costa & Kallick stress the importance of developing the habits of mind at early levels in education. When students and teachers have a sustained focus on the habits of mind from elementary through secondary school they establish are sense of continuity and expectations (Costa & Kallick, 2008, p.216). Analyzing the beginning stages of the habits of mind within an elementary school would allow for a better understanding of how younger grade level students acquire, develop, and grow with the habits. Within an elementary school having the teachers and students utilize the habits within the curriculum and classroom would give an opportunity to find out how effective this approach could be to enhancing and building dispositions in the elementary years.

This conducted study took place within an 8 week time frame during the school year. Having a full year study utilizing the habits of mind with special education teachers and students with learning disabilities would provide a bigger picture on the learning and teaching with the dispositions. Teachers would be required to develop lesson plans and activities weekly to show development throughout the study. Students would incorporate the habits into their work through reflections and interviews. This process would give a more detailed understanding, perspective, and opportunity for growth with the habits within a subject area course.

The possibility of including the habits of mind into a school culture could provide opportunity and potential for success with all stakeholders. As Costa & Kallick (2008, p.272) state, "the habits must be lived and practiced by every individual in the learning organization, and they must be institutionalized throughout the entire system". Incorporating a study consisting of school wide goals, curriculum, values, teaching and learning styles could give a bigger picture of how the habits could affect a whole community and culture.

Throughout the study it was clear that teacher development and effectiveness in using the habits of mind in lesson plans and classroom activities was deemed beneficial. Modeling, discussing, and behavioral strategies with the habits were determined to be factors that teachers found important within the classroom. Most importantly, the modeling aspect of teaching with the habits was an area teachers found helpful. This supports the idea that when teachers display good disposition and character in the classroom, their modeling of this behavior in turn is believed to have a direct effect on students (Osguthorpe, 2008). With this finding in the study it would be interesting to have teachers take part in a habits of mind teacher assessment rubric study. Evaluating and assessing teachers on their use of the habits of mind in teaching through modeling and utilizing the dispositions could deem important in the field of education and developing aspiring future teachers.

When considering the benefits that the habits of mind bring to teaching and learning, equally important is the opportunity they offer to disciplinary behavior models within schools and programs. As mentioned early in the paper, Martin (2001, p.131) stated that "teaching thinking skills and habits of mind to students with behavioral and learning disabilities is beneficial in promoting higher-level cognitive strategies". Through reflective journaling and discussion about the habits of mind within the classroom environment the possibility of building

community is clear. By incorporating the habits of mind into a restorative practices setting students could apply them to building community, resolving issues, and developing better relationships with peers and teachers.

Conclusion

As a special education teacher for the past 12 years and always trying to find the best approaches to develop successful dispositions within students with a learning disability, the researcher has shown how influential and effective Costa & Kallick's Habits of Mind can be within the learning environment. Like anything, if we do not experience or practice skills, behaviors, and dispositions, the less we are able to implement successfully in life. Teachers are the catalyst for developing habits into the learning environment hence it is their job to model and incorporate successful dispositions as much as they can. This mixed methods action research study has proven that the habits of mind have the potential to be incorporated into subject area curriculum and lessons with students' with learning disabilities.

Appendix A
Participation and Consent Form for Parents/Guardians

Dear Parent/Guardian,

My name is Dan Vollrath and I am a teacher at your child's school, and a doctoral student at Arcadia University, School of Education. Your child is invited to participate in a study I am conducting for my doctoral dissertation in the topic of Habits of Mind. Habits of Mind are set of dispositions and behaviors that help students successfully approach problems and challenges they encounter in the classroom and in everyday life. Some examples include persistence, taking responsibility, flexibility in thinking, creativity, and cooperative learning. As you may know, our school community is dedicated to implementing Habits of Mind curriculum across grades and subject areas. My study involves collecting documents and speaking with students and teachers about their experiences related to the curriculum. I am hoping to uncover how these dispositions enhance knowledge and development within learning and in the real world.

I am asking your permission to include your child in this study because he/she attends a resource classroom and can provide valuable insights from the student's perspective. I expect to have four different subject area classrooms participating in this project and **approximately 44** students will be invited to participate in this study.

The title of my project is "Students with an IEP and special education teachers perspectives with using Costa & Kallick's Habits of Mind in a resource room subject area course". This study is important because it may make a contribution in the area special education and teaching by identifying and building successful ways of thinking that will support learning and instruction.

This project will take approximately 2 months. If you agree (consent) for your child to participate, he/she will also be asked if he/she would like to participate. If your child also agrees, he/she will be invited to participate in the following activities:

a. Focus Groups: I will be conducting a total of three separate focus groups, with approximately 4 students at a time. Your child will possibly have the opportunity one time throughout the study to attend a focus group, which they will have the choice to participate or not participate. The focus group will be conducted during unit lunch, for 30 minutes in a classroom on campus. Focus groups will consist of topics and questions generated by myself in response to the information gathered through journals and interviews received throughout the study (see next activities for details). Conversation and sharing of ideas between students will allow an opportunity for them to listen to one another about their input, perceptions, and understanding about the habits. These sessions will be audiotaped in order to account for accuracy and collection of information, and summarized by myself on a personal, password protected computer. Any identifying information from the audiotapes will be deleted and replaced with pseudonyms in my summaries. The audiotapes will be destroyed after summaries are written.

These guidelines will be orally presented and discussed with your child prior to the beginning of the focus group:

"Your agreement to participate in a focus group means that you may be disclosing personal information to other participants in the focus group. You are asked to address others in the group by first name, and not share with anyone else the identity of others in this group (in other words, to maintain their anonymity), to keep confidential (to not tell anyone else) what people say during the focus groups related to Habits of Mind and learning and instruction, and to not share what was discussed in this meeting with anybody else outside of this group. You do not have to answer any questions which may make you feel uncomfortable. If at any time during the discussion you feel uncomfortable with the topic you may chose to remain quiet or to discontinue your participation."

b. <u>Reflective Journaling:</u> Reflective journaling will take place once a week throughout the study as part of the Habits of Mind curriculum and instruction. I am asking your permission to collect your child's journal entries to analyze for the purposes of this study. **During regular class time your child will be asked to reflect on and respond in writing to these two general and consistent prompts each week related to the Habits of Mind curriculum: "Explain a habit of mind that you feel you demonstrated in your class this past week", and "Explain a habit of mind that you feel you demonstrated outside of your class this week".** This journaling is expected to take between 15 minutes and 20 minutes each week. Journals will be shared with your child's classroom teacher through Google Docs, via school email, and myself using my personal, password protected Arcadia University email. This will allow the teacher access to the journals for curricular purposes, as well as the researcher for data analysis (as well as maintain confidentiality of student consent/study status in relation to the teacher and other students). I will print the journals from consenting student participants after each submission, taking out any personal information and replacing it with pseudonyms (fake names), as appropriate. At the conclusion of the study I will delete any and all responses posted to Google Docs, after printing the entries and taking out any identifying information.

c. <u>Interviews:</u> If during the focus group sessions, and reflective journaling processes, I have additional questions (to clarify my understanding of what a participant has written) or wish to invite your son or daughter to expand on their thoughts in relation to the topic of the investigation, I will invite them to participate in an individual interview with me. Interviews will last approximately 10-15 minutes. The interviews will be conducted at a place and time not during instructional class time. Your child will be asked to provide his or her own permission to participate in **all activities within the study** in a separate form, called an assent form. I will tell your child that if any of the interview questions make him/her uncomfortable, he/she will not have to answer them. If you and your child allow me to, I will audio record the interview to ensure accuracy and information. All recordings will be transcribed by me onto my personal, password protected computer.

Any identifying information from transcripts will be deleted and replaced with pseudonyms. After the interviews are transcribed, the audiotapes will be destroyed. If you or your son/daughter prefers me to not audio tape it, I will just take notes during the interview.

d. Rating Scale: All students, as part of the curriculum in these classrooms, will be filling out a rating scale at the beginning and end of this study. I am asking permission to collect the rating scales of the students who have agreed to participate in this study, as information that will inform the goals of this study. Rating scales will be used at the beginning, and end of the study in relation to the Habits of Mind they most and least exhibit. **There will be a total of 16 rating scale questions. Anticipated time of completion should take approximately 15 minutes.** I will give the survey to all students and make sure confidentiality is maintained using the methods described above.

Before, and during the administration of the rating scale I will remind your child that they can stop their participation at any time, and that they do not have to answer any items which might make them feel uncomfortable. I will also remind them that if they decide to stop participation after completing the rating scale (either at the beginning or end of the study), they will have the choice to allow the researcher to keep past data, or to ask that it be removed from the study. All students' names will be removed from the rating scales and replaced with pseudonyms (fake names).

All paper and electronic copies of information and documents will be stored either on my password-protected, personal computer, or in a locked filing cabinet in my home. All documents used in the study will be destroyed after 5 years. Copies of signed consent forms, as well as students' assent forms, will be stored in the locked filing cabinet in the office of the supervising faculty of this study, Dr. Peggy Hickman, Taylor 310B, Arcadia University. Results of this study will be shared with the supervising dissertation committee members, and may be shared in professional and scholarly meetings and presentations. **Findings will also be submitted to the District, in confidential form, for review when the project is complete.** Your child's name and personally identifying information will be replaced with a pseudonym (fake name) in all documents and presentations of the findings of this study.

It is important to note that within the study there is possibility of potential risks for your child if other members should choose to disclose information about them. I will be committed to follow procedures for maintaining confidentiality of your child's identity. Although I cannot control what group participants share or not share and discuss outside the parameters of the focus group.

As a teacher within the school, and possibly a teacher of your son/daughter, there may be a perceived conflict of interest. I will continually remind your son/daughter that my role in these activities is as a researcher, and that at no time will information gained in the study serve any evaluative purpose, nor be shared with anyone else outside of the study. I will also be

continuously reminding your child that they may choose not to participate, or withdraw from participating in the study at any time, with no negative consequences. They will be reminded that their participation is voluntary, and they do not have to answer any questions, or participate in study activities that may make them feel uncomfortable. All necessary precautions will be adhered to in order to protect your child's identity.

There will be no **direct benefits (**financial or other compensation**)** for you, **nor your** son/daughter **if you and they decide to participate in** the study. During the focus group sessions, since they will take place during lunchtime, I will provide pizza for the students who are participating in the focus group. By participating in these activities, your child may gain a better understanding of these habits, and their use of them, can help them with their learning, now and in the future.

Your decision to allow or not allow your child to participate will not affect his/her grades, your or his/her relationship with the school or school personnel, including me, nor the school district, nor Arcadia University. If you have any questions about the study you can email me at: dvollrath@arcadia.edu or call me at (908) 505-5451. You may also call the supervisor of this project, Dr. Peggy Hickman at (267) 620-4132 (hickmanp@arcadia.edu). This study has been approved by the school district superintendent, Mrs. Christina Steffner, and Arcadia University Institutional Review Board (IRB). To ensure that research continues to protect your rights and minimizes your risk, the IRB reserves the right to examine and evaluate the data and research protocols involved in this project. If you wish additional information regarding your rights in this study you may contact the Office for the Committee for the Protection of Research Subjects at (267) 620-4111.

Enclosed is a copy of this consent form that you may keep for your records. Please sign one copy to be returned to me if you agree to allow your child to participate. If you give consent for your son/daughter to participate in the study, I please ask that you put the signed consent form in the envelope provided and have your child return it to me in school. I will be meeting with your child in person.

Your signature below indicates that you have read the information provided above and have decided to allow your child to participate in the study. Please sign each of the activities your child can take part in and whether you allow me to audio tape the interviews. I appreciate your willingness to allow your child to participate. If you later decide that you wish to withdraw your permission of your child to participate in the study, simply contact me (email: dvollrath@arcadia.edu, phone: (908) 505-5451, or in person). You may discontinue his or her participation at any time with no negative consequences. If you chose to withdraw your child from the study, I will destroy any information collected from him/her up to that point.

I am looking forward to learning from this project and hope it will contribute to the field of education, particularly in reference to effective teaching and learning in inclusive classrooms. Please do not hesitate to contact me if you have any questions or would like additional information.

_____
This study has been explained to me, I have read the consent form and have been given a copy of this consent form.

   a) My child can take part in:

Focus Groups

                                         _____
                                                   Parent/guardian signature

Interviews

                                         _____
                                                   Parent/guardian signature

Reflective Journaling

                                         _____
                                                   Parent/guardian signature

Rating Scales

                                         _____
                                                   Parent/guardian signature

   b) I allow for the interviews and focus groups to be audio taped

                                         _____
                                                   Parent/guardian signature

                                         _____
                                                Date

Researcher Signature/Date: _____

Appendix B
Participation and Assent Form for Students

Dear Student,   November 21, 2015

Hello, my name is Mr. Vollrath and I am not only a teacher at your school, but also a student

doing a study in your school as part of my university program. This study is a dissertation project

that I am doing for Arcadia University. I am trying to learn about the development of positive

habits in students who receive special education services and if these habits help in learning. **The**

Habits of Mind which you should be familiar with are what I want to explore within this

study.

I am inviting you to participate in this study and share your experiences and thoughts with

me because I think you can help me understand the students' point of view about these Habits of

Mind.

If you agree to participate you will be invited to be a part of the following activities over the

next 8 weeks.

- Reflective Journaling: If you agree to participate, I will ask you to allow me to read

  copies of your reflective journals related to the Habits of Mind, that you already fill out

  once a week in one of your classes, either English, history, science, or math class, on the

  computer. **Your continued journal reflections to the following prompts: "Explain a**

  habit of mind that you feel you demonstrated in your class this past week", and

  "Explain a habit of mind that you feel you demonstrated outside of your class this

  week" will be important for my data collection. I'll ask you to share a Google

  document with myself and your teacher each time you complete a journal. Each time you

  share this document your name will be changed in order to keep confidentiality. No one

  will see the document except myself and your teacher.

- Focus groups: If you agree to participate, you will have the opportunity to be selected as one of the participants to participate in 1 of 3 focus groups with myself. This will take place during unit lunch in a designated classroom and last no longer than 30 minutes. Pizza will be provided. If selected you will have the option to not participate and your name will be taken out of the drawing. In the focus groups a discussion will take place in reference to the Habits of Mind allowing every participant to talk and give their insight.

- Habits of mind self-rating scale: If you agree to participate, I will ask you to allow me to view the habits of mind self-rating scale you will be already completing once in the beginning of the study and again at the end of the study in either your English, science, math, or history classroom. On the scale you will rank the habits of mind according to how well you think you present them. **There will be a total of 16 rating scale questions and it should take you approximately 15 minutes to complete.**

- Interviews: If you agree to participate, you will have the opportunity to be interviewed. All interviews will take place as needed, meaning if I find something interesting that you write about or say, I will ask you to talk with me face to face and answer some questions. Interviews will take place Monday through Friday in a private classroom, if needed, and will last for approximately 10 minutes. I will contact you to arrange a time and place to meet that does not interfere with your other classes.

For both the focus groups and interviews, if it is OK with you, I will use a tape recorder to record our talk to make sure I get your answers right. However, if you do not want me to tape our conversation, I will not do it and only take notes while in session. Your parent/guardian has been told about the study, and has given permission for you to participate. However, you can say "no" to participating in this study and you can also drop out at any time simply by telling me, with no

negative consequences. I will keep your name confidential by giving you a "fake name" on all documents and in all files and writings about the study, and will not share anything you tell me with others. Participating, or not, in this study will not affect your grade or your relationship with me, your teacher or the school. I will not tell your teacher about your participation in the study. You can ask questions about this study at any time.

The principal and superintendent have given me permission to do the study but they can still decline.

It is important to note that within the study there is possibility of potential risks, such as other members choosing to disclose information about you. I will be committed to follow procedures for maintaining confidentiality of your identity. Although I cannot control what group participants share or not share and discuss outside the parameters of the focus group.

As a teacher within the school, and possibly your teacher, there may be a perceived conflict of interest. I will continually remind you that my role in these activities is as a researcher, and that at no time will information gained in the study serve any evaluative purpose, nor be shared with anyone else outside of the study. I will also be continuously reminding you that you may choose not to participate, or withdraw from participating in the study at any time, with no negative consequences. You will be reminded that your participation is voluntary, and you do not have to answer any questions, or participate in study activities that may make you feel uncomfortable. All necessary precautions will be adhered to in order to protect your identity.

Your assent forms will be stored in a locked filing cabinet in the office of the supervising faculty of this study, Dr. Peggy Hickman, Taylor 310B, Arcadia University. Results of this study will be shared with the supervising dissertation committee members, and may be shared in

professional and scholarly meetings and presentations. **Results will also be submitted to the**

District, in confidential form, for review when the project is complete.

There will be no **direct benefits (financial or other** compensation) for you **if you agree to**

participate in the study. Although during focus group sessions I will provide pizza.

Please sign below if you agree to participate in the study and if it is OK for me to tape my

interviews and focus group discussions with you:

I would like to participate in interview(s): _____
<div align="center">Your signature</div>

I would like to participate in reflective journaling: _____
<div align="center">Your signature</div>

I would like to participate in focus groups: _____
<div align="center">Your signature</div>

I would like to participate in completing rating scales: _____
<div align="center">Your signature</div>

You can tape my interview and participation in focus groups:

<div align="center">_____
Your signature</div>

Date: _____

Appendix C
Participation and Consent Form for Special Education Teachers

Dear special education teacher,

My name is Dan Vollrath and I am **teacher at your school, and a** doctoral student at Arcadia University, Department of Education. You are invited to participate in a study I am conducting for my doctoral dissertation in the topic of Habits of Mind. I am interested in learning about the development and perceptions of teachers and students utilizing these dispositions within the classroom setting.

The title of my project is "Students with an IEP and special education teachers perspectives with using Costa & Kallick's Habits of Mind in a resource room subject area course". **Through this study I will be seeking to collect and use data on what you are already doing with the Habits of Mind in your classroom.** This study is important because it may make a contribution in the area of special education teaching by identifying and building successful habits that are important to instill in students with learning disabilities and teachers in the classroom setting.

I am asking for you participation because of your experience in a resource subject area classroom and because you could add valuable insight from the teacher's perspective. I expect to have four teachers participating in this project, all in different subject areas.

This project will take approximately 2 months. **All activities I am asking you to participate in are curricular.** Participation is voluntary and will include the following components:

a. <u>Reflective Journaling:</u> If you agree to participate, you will be asked to reflect on and respond in writing to general and consistent prompts each week related to teaching and perceived student understanding of the Habits of Mind. **Each week you will respond to the following prompt: "Explain what Habits of Mind you feel were exhibited by your students and how your teaching with the Habits of Mind supported your students learning".** You will have the freedom to journal any time throughout the week. I will ask you to allow me to read copies of your reflective journals and provide you the option to send your document through your personal email or school email. You can also choose to send it through a word document or through Google Docs. **<u>I will ask you to send</u>** your journal responses to my personal university email (**<u>not to my district/school email address, for confidentiality)</u>**. Although there is no writing length requirement, feel free to gauge the amount of time you feel appropriate for communicate your ideas and perspectives for this task. I will print your journals after each submission, redacting

any personal information and replacing it with pseudonyms, as appropriate. **Your email will be deleted from my email account after printing, for confidentiality purposes.**

b. Habits of Mind Self-Rating Scale: If you agree to participate, I will ask you to complete and allow me to view two identical rating scales, one at the beginning, and one at the end of the study in relation to the Habits of Mind you most and least exhibit. **There will be a total of 16 rating scale questions. Anticipated time of completion should take approximately 15 minutes.** Before, and during the administration of the rating scale I will remind you that you can stop participation at any time, and that you do not have to answer any items which might make **you** feel uncomfortable. I will also remind you that if you decide to stop participation after completing the rating scale (either at the beginning or end of the study), you will have the choice to allow me to keep past data, or to ask that it be removed from the study.

As part of the curriculum in which you participate as an instructor, the students are given similar journaling activities related to the Habits of Mind curriculum on a weekly basis, which they share with you as part of your course activities. For the purposes *of this study*, I am asking your permission to enter and use a total of 30 minutes of class time (15 minutes at the beginning, and 15 minutes at the end of the study period) for students to complete these surveys. All students will complete the surveys; however, only the surveys from students who have parents who have consented for their participation in the study, and who themselves have assented to participating, will be used as data for the purposes of this study. Further, consenting student participants will be asked to forward their weekly journals about the Habits of Mind to me as well (those completed weekly in your classroom), at my university email address, as data and feedback in relation to their learning and application of the Habits of Mind skills.

Confidential results of this study will be shared with the supervising dissertation committee members, and may be shared in professional and scholarly meetings and presentations. Your name and personally identifying information will be replaced with a pseudonym (fake name) in all documents and presentations of the findings of this study. **Findings will also be submitted to the District, in confidential form, for review when the project is complete.** All paper and electronic copies of information and documents used in the study will be destroyed after 5 years. Copies of signed consent forms, as well as students' assent forms, will be stored in the locked filing cabinet in the office of the supervising faculty of this study, Dr. Peggy Hickman, Taylor 310B, Arcadia University.

As the researcher, I will keep all information resulting from rating scales and journals confidential. Note that no names or any other identifying information will be used in the

results of this study. Also you can, at your discretion, withdraw from this study at any time. If you chose to withdraw, I will destroy any information collected from you up to that point.

As a teacher and colleague within the school, there may be a perceived conflict of interest. I will continually remind you that my role in these activities is as a researcher, and that at no time will information be gained in the study serve any evaluative purpose, nor be shared with anyone else outside of the study. I will also be continuously reminding you that you may choose not to participate, or withdraw from participating in the study at any time, with no negative consequences. You will be reminded that your participation is voluntary, and you do not have to answer any questions, or participate in any study activities that may make you feel uncomfortable. There will be no **direct benefits (**financial or other compensation) for you **if you decide to participate in** the study. By participating in these activities, I am anticipating that you will gain a better understanding of these habits, how to use them within teaching, and for enhancing student learning, now and in the future.

This study will take place between the months of November and March of 2014/15. Your decision to participate or not will not affect your relationship with me, the school or other school personnel, the School District, or Arcadia University. If you have any questions about the study you can e-mail me at: dvollrath@arcadia.edu or you may call the supervisor of the project, Peggy Hickman at (215) 572-4132.

This study has been approved by the school district superintendent and Arcadia University Institutional Review Board (IRB). To ensure that research continues to protect your rights and minimizes your risk, the IRB reserves the right to examine and evaluate the data and research protocols involved in this project. If you wish additional information regarding your rights in this study you may contact the Office for the Committee for the Protection of Research Subjects at (267) 620-4111.

Enclosed is a copy of this consent form that you may keep for your records. Please sign one copy and return to me if you agree to participate. Your signature below indicates that you have read the information provided above and have decided to participate in the study. Please sign each of the activities you agree to take part in. I appreciate your willingness to participate. If you later decide that you wish to withdraw your participation in the study, simply contact me (email: dvollrat@arcadia.edu, phone: (908) 505-5451, or in person).

I am looking forward to learning from this project and hope it will contribute to the field of education, particularly in reference to effective teaching and learning using the Habits of Mind.

This study has been explained to me, I have read the consent form and have been given a copy of this consent form. I agree to take part in:

Reflective journaling   _____

               Signature

Rating scales   _____

               Signature

Date _____

Researcher Signature/Date: _____

Appendix D
Interviews

These interview questions relate to the goals within the study and give further clarification to students' perceptions and thoughts towards the Habits of Mind.

Interview Questions:

Can you clarify what you mean in your journal reflection about your Habit of Mind used within the classroom? (More specific depending on what journal reflection I need more clarification on)

Can you clarify what you mean in your journal reflection about your Habit of Mind used outside of the classroom? (More specific depending on what journal reflection I need more clarification on)

Appendix E
Focus Group Questions

These focus group questions relate to the goals within the study and what is being perceived by the students in relation the Habits of Mind.

Questions:

What are your thoughts and feelings so far in working the Habits of Mind in your classroom?

Do you feel the Habits of Mind to be a helpful learning tool within your classes? How?

What Habit of Mind do you feel you use most within (   ) class? Why?

What Habit of Mind do you feel you use least within (   ) class? Why?

What Habit of Mind do you feel you use the most outside of class? Why?

Appendix F

Habits of Mind Rating Scale

On a scale of 0-10 (0 being the lowest and 10 being the highest) select the number that best represents your feelings on how you behave towards that habit.

1. I am a persistent person, always stick to the task at hand, follow through with tasks to completion, remain focused, and if I don't succeed on the first try, I keep trying until I do succeed.

   Never   Sometimes   Always

   0   1   2   3   4   5   6   7   8   9   10

   Evidence:

2. I manage my impulses and am willing to delay gratification to attain long-term goals. I always think before acting.

   Never   Sometimes   Always

   0   1   2   3   4   5   6   7   8   9   10

   Evidence:

3. I listen to others with understanding and empathy. I always make an effort to understand another's point of view and emotions.

   Never   Sometimes   Always

   0   1   2   3   4   5   6   7   8   9   10

   Evidence:

4. I am a flexible thinker. I seek new and different perspectives and can change my mind. I try to look at things in another way.

   Never   Sometimes   Always

   0   1   2   3   4   5   6   7   8   9   10

   Evidence:

5. I am aware of how I am thinking (metacognition) when I am trying to solve a problem. I am aware of my thoughts, strategies, feelings and actions and their effects on others.

   Never   Sometimes   Always

   0   1   2   3   4   5   6   7   8   9   10

Evidence:

6. I check my work for quality and try to be accurate and precise in everything I do. I am always checking and finding ways to improve constantly.

Never   Sometimes   Always

0   1   2   3   4   5   6   7   8   9   10

Evidence:

7. I ask questions, search for data to support conclusions, and inquire into intriguing ideas. I have a questioning attitude.

Never   Sometimes   Always

0   1   2   3   4   5   6   7   8   9   10

Evidence:

8. I draw on what I have learned and apply it to new situations to solve problems.

Never   Sometimes   Always

0   1   2   3   4   5   6   7   8   9   10

Evidence:

9. I am constantly adding new words to my vocabulary. I think about my words and choose them to communicate my ideas precisely.

Never   Sometimes   Always

0   1   2   3   4   5   6   7   8   9   10

Evidence:

10. I use all my senses (sight, hearing, touching, smelling, tasting) to learn. I gather data through all of these senses.

Never   Sometimes   Always

0   1   2   3   4   5   6   7   8   9   10

Evidence:

11. I am a creative person and know how to generate ideas and processes.

Never   Sometimes   Always

0   1   2   3   4   5   6   7   8   9   10

Evidence:

12. I am intrigued and have a sense of wonderment about the world. I enjoy finding problems to solve.

Never   Sometimes   Always

0   1   2   3   4   5   6   7   8   9   10

Evidence:

13. I am willing to take calculated and responsible risks to venture into the unknown and to try new ideas and strategies.

Never   Sometimes   Always
0   1   2   3   4   5   6   7   8   9   10

Evidence:

14. I can laugh at myself and find humor in many situations. I refrain from belittling or making fun of others.

Never   Sometimes   Always
0   1   2   3   4   5   6   7   8   9   10

Evidence:

15. I collaborate with others, contributing to and learning from cooperative work.

Never   Sometimes   Always

0   1   2   3   4   5   6   7   8   9   10

Evidence:

16. I am a continual learner. I reflect on and learn from my experiences and easily admit what I don't know.

Never   Sometimes   Always
0   1   2   3   4   5   6   7   8   9   10

Evidence:

References

Adams, C. (2006). Powerpoint, habits of mind, and classroom culture. *Journal of Curriculum Studies, 38*(4), 389-411. doi: 10.1080/00220270600579141

Al Ghraibeh, A.M. (2012). Brain based learning and its relation with multiple intelligences. *International Journal of Psychological Studies, 4,* 103-113. doi: 10.5539/ijps.v4n1p103

Allday, R.A., Neilsen-Gatti, S., & Hudson, T.M. (2013). Preparation for inclusion in teacher education pre-service curricula. *Teacher Education and Special Education, 36* (4), 298-311. doi: 10.1177/0888406413497485

Anderson, J. (2010). *Succeeding with habits of mind.* Moorabbin, VIC: Hawker Brownlow Education.

Aria, T. & Tracey, D.H. (2003). The use of humor in vocabulary instruction. *Reading Horizon, 43* (3), 161-179.

Astington, S., & Olson, D. (1990). Metacognition and metalinguistic language: Learning to talk about thought. *Applied Psychology: An International Review, 39* (1), 77-87.

Aulls, M.W., & Shore, B.M. (2008). *Inquiry in education (Vol. I): The conceptual foundations for inquiry as a curricular imperative*. New York, NY. Routledge.

Barnard-Brak, L., & Lechtenberger, D. (2010). Student IEP participation and academic achievement across time. *Remedial and Special Education, 31* (5), 343-349. dio: 10.1177/0741932509338382

Backer, E. (2010). Using smartphones and Facebook in a major assessment: the student experience. *e-Journal of Business Education and Scholarship of Teaching,* 4(1), 19-31.

Bell, N.D. (2009). Learning about and through humor in the second language classroom.

Language Teaching Research, 13 (3), 241-258. doi: 10.1177/1362168809104697

Berk, R. A., (2000). Does humor in college tests reduce anxiety and improve

performance? *College Teaching, 48(4), 151-158.*

Bertrand, L., & Bratberg, W. D. (2007). Promoting the success of all students: The

principal's role in providing quality special education services. *Academic Leadership*,

5(3). Retrieved from http://www.academicleadership.org/emprical_research/

Promoting_the_Success_of_All_Students.shtml

Bloomberg, L.D., & Volpe, M. (2008). *Completing your qualitative dissertation: A roadmap*

from beginning to end. Thousand Oaks, CA: Sage, Inc.

Bransford, J. (2000). *How people learn: Brain, mind, experience, and school.* Washington, DC:

National Academy Press.

Brown, K.S., & Parson, R.D. (2002). *Teacher as reflective practitioner and action*

researcher. Belmont, CA: Wadsworth/Thomson Learning.

Brownell, M.T., Sindelar, P.T., Kiely, M.T., & Danielson, L.C. (2010). Special education teacher

quality and preparation: Exposing foundations, constructing a new model. *Council for*

Exceptional Children, 76 (3), 357-377.

Burgess, J. (2012). The impact of teaching thinking skills as habits of mind to young children

with challenging behaviours. *Emotional and Behavioural Difficulties, 17*, 47-62. doi:

http://dx.doi.org/10.1080/13632752.2012.652426

Burns, P. C., Roe, B. D., & Ross, E. P. (1999). *Teaching reading in today's elementary*

schools (7h ed). Boston: Houghton Mifflin.

Calhoun, E.F. (1994). *How to use action research in a self-renewing school.* Alexandria, VA:

ASCD.

Castle, S., Baker Deniz, C., & Tortora, M. (2005). Flexible grouping and student learning in a high-needs school. *Education and Urban Society, 37* (2), 139-150. doi: 10.1177/0013124504270787

Castelhano, J. (2013). PARCC: Is this the next big thing?. *Technology & Learning, 33* (9).

Cheung, W.S., & Hew, K.F. (2010). Examining facilitators' habits of mind in an asynchronous online discussion environment: A two cases study. *Australasian Journal of Educational Technology, 26,* 123-132.

Clearly, M., Flynn, R., & Thomasson, S. (2006). *Employment skills from framework to practice: An introductory guide for trainers and assessors.* Canberra, Australia: Department of Education, Science and Training.

Cobb-Morocco, C. (2001). Teaching for understanding with students with disabilities: New directions for research on access to the general education curriculum. *Learning Disability Quarterly, 24* (5), 5-13. doi: 10.2307/1511292

Common Core State Standards Initiative. (2014). *Preparing America's students for college and career.* Washington, DC.

Conference Board of the Mathematical Sciences (2001). *Issues in Mathematics Education II – The Mathematical Education of Teachers.* (Washington, D.C.: AMS/MAA).

Costa, A. (2007). Asthetics: Where thinking begins. In A. Costa (Ed), *The school as a home for the mind.* (Ch. 2). Thousand Oaks, CA: Corwin.

Costa, A.L., & Kallick, B. (2008). *Learning and leading with habits of mind: 16 essential characteristics for success.* Alexandria, VA: ASCD.

Costa, A.L., & Kallick, B. (2009). *Habits of mind across the curriculum: Practical and creative strategies for teachers.* Alexandria, VA: ASCD.

Costa, A.L., & Kallick, B. (2014). *Dispositions: Reframing teaching and learning.* Thousand

   Oaks, CA: Corwin.

Council of Writing Program Administrators National Council of Teachers of English

   National Writing Project. *Framework for Success in Postsecondary Writing.* CWPA,

   NCTE & NWP. 19 Jan. 2014.

Covey, S. (2004). *The seven habits of highly effective people: Powerful lessons in personal*

   change. New York: Simon & Schuster.

Creswell, J.W. (2007). *Qualitative inquiry and research design: Choosing among five*

   approaches. Sage Publications, Inc.

Cuoco, A., Goldenberg, E.P., & Mark, J. (1996). Habits of mind: An organizing principle for

   mathematics curricula. *Journal of Mathematical Behavior, 15*, 375-402.

Dabkowski, D.M. (2004). Encouraging active parent participation in IEP team meetings. *Council*

   for Exceptional Children, 36, 34-39.

Danielson, C. (2007). *Enhancing professional practice: A framework for teaching.* (2nd Edition

   ed.) Alexandria, VA: ASD.

Darling-Hammond, L. (2010). *The flat world and education: How America's commitment to*

   equity will determine our future. New York: Teachers College Press.

Darrow, A.A. (2014). Applying common core standards to students with disabilities in music.

   General Music Today, 27 (3), 33-35. doi: 10.1177/1048371313519645

Daugherty, S., Grisham-Brown, J., & Hemmeter, L. (2001). The effects of embedded

   skill instruction on the acquisition of target and nontarget skills in preschoolers with

   developmental delays. *Topics in Early Childhood Special Education, 21*, 213–221.

Davidson, C.N. (2013). *Now you see it: How the brain of attention will transform the way we*

live, work, and learn. New York, NY: Viking Press.

Deutsch-Smith, D., Mortorff-Robb, S., West, J., & Chowdhuri-Tyler, N. (2010). The changing

education landscape: How special education leadership preparation can make a difference

for teachers and their students with disabilities. *Teacher Education and Special*

Education: The Journal of the Teacher Education Division of the Council for Exceptional

Children, 33 (1), 25-43. doi: 10.1177/0888406409358425

Donaldson, G.A. (2008). The learning environment for leader growth. In G. Donaldson, *How*

leaders learn: Cultivating capacities for school improvement (pp. 104-126). New York:

Teachers College Press.

Drago-Severson, E., Asghar, A., Blum-DeStefano, J., & Roloff Welch, J. (2011). Conceptual

changes in aspiring school leaders: Lessons from a university classroom. *Journal of*

Research on Leadership Education, (6) 4, 83-132.

Duckworth, A.L., & Seligman, M.E.P. (2005). Self-discipline outdoes IQ in predicting academic

performance of adolescents. *Psychological Science, 16*, 939-944.

Engel, RJ., & Schutt, R.K. (2013). *The practice of research in social work.* Thousand Oaks, CA:

Sage Publication Inc.

Evenson, R. (1999). Soft skills, hard sell. *Techniques: Making Education & Career Connections,*

74 (3), 29-31.

Feuerstein, R., Rand, Y., Hoffman, M.B., & Miller, R. (1980). *Instrumental enrichment: An*

intervention program for cognitive modifiability. Baltimore, MD: University Park Press.

Foil, C. R. & Alber, S. R. (2002). Fun and effective ways to build your students'

vocabulary. *Intervention in School and Clinic,* 37(3), 131-140.

Gerwetz, C. (2013). A common core challenge: Learners with special needs. *Education Week, 33*

(10), s4-s6.

Gerwetz, C. (2007). Soft skills in big demand: Interest in teaching students habits of mind for

success in life is on the rise. *Education Week, 26* (40), 25-27.

Glenn, J.L. (2008). The "new" customer service model: Customer advocate, company

ambassador. *Business Education Forum, 62* (4), 7-13.

Graham, S., & Harris, K.R. (2013). Common core state standards, writing, and students with LD:

Recommendations. *Learning Disabilities Research & Practice, 28,* 28-37.

Greene, J.C. (2007). *Mixed methods in social inquiry.* San Francisco, CA: Jossey-Bass.

Gordon, M. (2011). Mathematical habits of mind: Promoting students' thoughtful considerations.

Journal of Curriculum Studies, 43(4), 457-469. doi: 10.1080/00220272.2011.578664

Harvey-Woodwall, A. (2009). *Integrating Technology into the Classroom: How Does It*

Impact Student Achievement?.

Huber, M.T., & Breen, M. (2007). *Integrative learning: Putting the pieces together again.*

Carnegie Institute for the Advancement of Teaching. Retrieved May 7, 2014, from

http://www.carnegiefoundation.org/perspectives.

Huitt, W. (1997). Metacognition. *Educational Psychology Interactive*. Valdosta, GA: Valdosta

State University. Retrieved December 2, 2013

from http://www.edpsycinteractive.org/topics/cognition/metacogn.html

Hung, C.-M., Hwang, G.-J., & Huang, I. (2012). A project-based digital storytelling approach for

improving students' learning motivation, problems-solving competence and learning

achievement. *Educational Technology & Society, 15* (4), 368-379.

Idol, L. (2006). Toward inclusion of special education students in general education. *Remedial*

and Special Education, 27 (2), 77-94.

Individuals With Disabilities Education Act, 20 U.S.C. § 1400 (2004).

Johnson, D. D. (2001). *Vocabulary in the elementary and middle school.* Boston: Allyn &

      Bacon.

Johnson, N. & Parker, A.T. (2013). Effects of waiting time when communicating with children

      who have sensory and additional disabilities. *Journal of Visual Impairment and Blindness,*

      107 (5), 363-374.

Jones, J.L., & Hensley, L.R. (2012). Taking a closer look at the impacto f classroom placement:

      Students share their perspective from inside special education classrooms. *Educational*

      Research Quarterly, 35 (3), 33-49.

Kauffman, J.M., & Sasso, G.M. (2006). Toward ending cultural and cognitive relativism in

      special education. *Exceptionality, 14* (2), 65-90.

Kazdin, A.E. (2011). *Single-case research designs: Methods for clinical and applied settings.*

      New York, NY: Oxford University Press.

Klaus, P. (2010). Communication breakdown. *California Job Journal, 28*, 1-9.

Krueger, R., & Casey, M.A. (2000). *Focus groups: A practical guide for applied research (3rd*

      edition). Thousand Oaks, CA: Sage.

Kuhn, D. (2005). *Education for thinking.* Cambridge, MA: Harvard University Press.

Langer, E. (1997). *The power of mindful learning.* Cambridge, MA: Da Capo Press.

Leager, C. (2005). Fostering scientific habits of mind. *Iowa Science Teachers Journal, 32* (3), 8-

      12.

Lee, S.H., Soukup, J.H., Little, T.D., & Wehmeyer, M.L. (2009). Student and teacher variables

      contributing to access to the general education curriculum for students with intellectual

      and developmental disabilities. *The Journal of Special Education, 43*, 29-44. doi:

10.1177/0022466907313449

Lincoln, Y.S., & Guba, E. (1985). *Naturalistic inquiry.* Beverly Hills, CA: Sage.

Lemke, C. and Sweeney, J.F. (editors). (1999). Transforming learning through technology:

Policy roadmaps for the nations's governors. [Online]. Available:

Lipton, L., & Wellman, B. (1999). *Pathways to understanding.* Guilford, VT: Pathways

Publishing.

Loewenberg Ball, D., & Forzani, F.M. (2009). The work of teaching and the challenge for

teacher education. *Journal of Teacher Education, 60* (5), 497-511. doi:

10.177/0022487109348479

Lowenthal, A.B., & Bassett, D.S. (2012). Transition assessment: using gap analysis to enhance

effective transition planning. *Intervention in School and Clinic, 48,* 30-37. doi:

10.1177/1053451212443131

Marshall, C., & Rossman, G.B.(2011). *Designing qualitative research.* SAGE Publications, Inc.

Martin, D.S. (2001). *Thinking and the special-needs learner*. In Developing minds: A resource

book for teaching thinking, ed. A. Costa, 211-221. Alexandria, VA: Association for

Supervison and Curriculum Development.

Marzano, R.J. (2005). *A different kind of classroom: Teaching with dimensions of learning*.

Heatherton, VIC: Hawker Brownlow Education.

Marzano, R.J., Pickering, D.J., & McTighe, J. (1993). *Assessing student outcomes: Performance

assessment using the dimensions of the learning model.* Alexandria, VA: Association for

Supervison and Curriculum Development.

McCoog, I.J. (2008). *21st Century Teaching and Learning.*

Mills, G. (2003). *Action research: A guide for the teacher researcher.* Upper Saddle River:

Pearson Education, Inc.

Mitchell, G.W., Skinner, L.B., & White, B.J. (2010). Esssential soft skills for success in the

twenty-first century workforce as perceived by business educators. *Delta Pi Epsilon*

Journal, 52, 43-53.

Moustakas, C. (1994). *Phenomenological research methods.* Thousand Oaks, CA: Sage.

NASET LD Report #3. Characteristics of children with learning disabilities. Retrieved:

November 3, 2013.

Nealy, C. (2005). Integrating soft skills through active learning in the management classroom.

Journal of College Teaching & Learning, 2 (4), 1-6.

Neo, C.E., & Cheung, W.S. (2007). A framework for enhancing dispositions. *The Korean*

Journal of Thinking and Problem Solving, 17 (2), 67-76.

Onwuegbuzie, A.J., & Johnson, R.B. (2006). The validity issue in mixed research. *Research in*

the Schools, 13 (1), 48-63.

Osguthorpe, R.D. (2008). On the reasons we want teachers of good disposition and moral

character. *Journal of Teacher Education, 59* (4), 288-299. doi:

10.1177/0022487108321377

Partnership for 21st Century Skills. (2009). Framework for 21st century learning. Retrieved

October 16, 2013, from http://www.p21.org/documents/P21_Framework_Definitions.pdf

Perkins, D. (2000). Series foreword: Thinking on the road of life. In A.L. Costa & B, Kallick

(Eds.), *Habits of mind: A developmental series.* Alexandria, VA: Association for

Supervision and Curriculum Development.

Perkins, D., Tishman, S., Richhart, R., Donis, K., & Andrade, A. (2000). Intelligence in the wild:

A dispositional view of intellectual traits. *Educational Psychology Review, 12* (3), 269-

293. doi: 10.3102/0162373709336465

Porter, A., McMaken, J., Hwang, J., & Yang, R. (2011). Common core standards: The new U.S. intended curriculum. *Educational Researcher, 40* (3), 103-116. doi: 10.3102/0013189X11405038

Porter, A.C., Polikoff, M.S., & Smithson, J. (2009). Is there a de facto national intended curriculum? Evidence from state content standards. *Educational Evaluation and Policy Analysis, 31,* 238-268.

Posavac, H.D., Sheridan, S.M., & Posavac, S.S. (1999). A cueing procedure to control impulsivity in children with attention deficit hyperactivity disorder. *Behavior Modification, 23* (2), 234-253. doi: 10.1177/0145445599232003

Prestia, K. (2004). Incorporate sensory activities and choices into the classroom. *Intervention in School and Clinic, 39* (3), 172-175.

Protheroe, N. (2005, November/December). Technology and student achievement. *Principal,* 85(2), 46-48.

Richards, J.C. (2013). Curriculum approaches in language teaching: Forward, central, and backward design. *RELC Journal, 44* (5), 5-33. doi: 10.1177/0033688212473293

Robles, M.M. (2012). Executive perceptions of the top 10 soft skills needed in today's workplace. *Business Communication Quarterly, 75* (4), 453-465. doi: 10.1177/1080569912460400

Rowe, M.B. (1986). Wait time: Slowing down might be a way of speeding up!. *Journal of Teacher Education, 37* (43), 43-50.

Saunders-Stewart, K.S., Gyles, P.D.T., & Shore, B.M. (2012). Student outcomes in inquiry instruction: A literature-derived inventory. *Journal of Advanced Academics, 23* (5), 5-31. doi: 10.1177/1932202X11429860

Schoen, L., & Fusarelli, L.D. (2008). Innovation, NLCB, and the fear factor: The challenge of

leading 21st century schools in an era of accountability. *Educational Policy, 22,* 181-203.

doi: 10.11770895904807311291

Semrud-Clikeman, M., & Glass, K. (2010). The relation of humor and child development: Social,

adaptive, and emotional aspects. *Journal of Child Neurology, 25* (10), 1248-1260. doi:

10.1177/0883073810373144

Shah, N. (2012). States adapting best practices from special education for standards. *Education

Week, 31,* S32-S33.

Shillingford-Butler, M.A., & Theodore, L. (2013). Students diagnosed with attention deficit

hyperactivity disorder: Collaborative strategies for school counselors. *Professional

School Counseling, 16* (4), 235-244. doi: 10.1111/jsr.12049

Shu Hong Bee, M., Hock Seng, G., & Jusoff, K. (2013). Habits of mind in an ESL classroom.

English Language Teaching, 6 (11), 130-138. doi: 10.5539/elt.v6n11p130

Sizer, T. (1992). *Horace's school: Redesigning the American high school.* New York, NY:

Houghton Mifflin.

Sockett, H. (2006). *Teacher dispositions: Building a teacher education framework of

moral standards.* Washington, DC: AACTE Publications

Smith, D.D., Mortorff Robb, S., West, J., & Chowdhuri Tyler, N. (2010). The changing

education landscape: How special education leadership preparation can make a difference

for teachers and their students with disabilities. *Teacher Education and Special

Education, 33* (1), 25-43. doi: 10.1177/0888406409358425

Suk-Hyang, L., Wehmeyer, M.L., Palmer, S.B., Soukup, J.H., & Little, T.D. (2008). Self-

determination and access to the general education curriculum. *Journal of Special

Education, 42 (2), 91-107. doi: 10.1177/0022466907312354

Swanson, E.A., & Vaughn, S. (2010). An observation study of reading instruction provided to elementary students with learning disabilities in the resource room. *Psychology in Schools, 47* (5), 481-492. doi: 10.1002/pits.20484

Taylor, S.H. (2011). Engendering habits of mind and heart through integrative learning. *About Campus, 16*(5), 13-20. doi: 10.1002/abe.20076

Teddie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences.* SAGE Publications, Inc.

Thorson, S. (1995). *MacBeth* in the resource room: Students with learning disabilities study Shakespeare. *Journal of Learning Disabilities, 28* (9), 575-581.

Tishman, S. (2000). Why teach habits of mind? In A.L. Costa & B. Kallick (Eds.), *Habits of mind: A developmental series* (pp. 41-52). Alexandria, VA: Association for Supervision and Curriculum Development.

Trent, S.C., Artiles, A.J., & Englehart, C.S. (1998). From deficit thinking to social constructivism: A review of theory, research, and practice in special education. *Review of Research in Education, 23,* 277-307.

U.S. Department of Education. (2004). Twenty-sixth annual report to congress on the implementation of Individuals with Disabilities Education Act. Washington, DC: U.S. Department of Education.

U.S. Department of Education. Office of Educational Technology. (2013). *Promoting grit, tenacity, and perseverance: Critical factors of success in the 21st Century.* Washington, D.C.: Author.

Vaughn, S., & Linan-Thompson, S. (2003). What is special about special education for students with learning disabilties?. *The Journal of Special Education, 37* (3), 140-147. doi: 10.1177/00224669030370030301

Villegas, A.M. (2007). Dispositions in teacher education: A look at social justice. *Journal of Teacher Education, 58* (5), 370-380. doi: 10.1177/0022487107308419

Vreeberg Izzo, M., Yurick, A., Nagaraja, H.N., & Novak, J.A. (2010). Effects of 21st-century curriculum on students' information technology and transition skills. *Career Development for Exceptional Individuals, 33* (2), 95-105. doi: 10.1177/0885728810369348

Wehmeyer, M. L., Field, S., Doren, B., Jones, B., & Mason, C. (2004). Self-determination and student involvement in standards based reform. *Exceptional Children, 70*, 413-425.

Willis, J. (2007). *Research-based strategies to ignite student learning: Insights from a neurologist and classroom teacher.* Alexandria, VA: ASCD.

Wiederholt, J.L., & Chamberlain, S.P. (1989). A critical analysis of resource programs. *Remedial and Special Education, 10* (6), 15-37.

Wiersema, J.A., & Licklider, B.L. (2009). Intentional mental processing: Student thinking as a habit of mind. *Journal of Ethnographic & Qualitative Research, 3,* 117-127.

Yell, M.L. (2006). *The law and special education.* Upper Saddle River, NJ: Pearson Education, Inc.

Zehr, M.A. (1998). New office economy putting greater demands on schools. *Education Weekly, 17* (23), 7.