Fall 9-2017

A Qualitative Study of Learning Spaces at a Midwest Elementary School and its Relationship to Student Attitudes about Reading

Stephanie Marie Limpert
Lindenwood University

A Qualitative Study of Learning Spaces at a Midwest Elementary School and its Relationship to Student Attitudes about Reading

by

Stefanie Marie Limpert

A Dissertation submitted to the Education Faculty of Lindenwood University

in partial fulfillment of the requirements for the

degree of

Doctor of Education

School of Education

A Qualitative Study of Learning Spaces at a Midwest Elementary School and its Relationship to Student Attitudes about Reading

by

Stefanie Marie Limpert

This dissertation has been approved in partial fulfillment of the requirements for the degree of

Doctor of Education

at Lindenwood University by the School of Education

Dr. Robyne Elder, Dissertation Chair	9/29/17 Date
Dr. Robert "Bo" Ricker, Committee Member	9/29/17 Date
Dr. Kelly Dickenson, Committee Member	9-29-17 Date

Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work here at Lindenwood University and that I have not submitted it for any other college or university course or degree here or elsewhere.

Full Legal Name: Stefanie Marie Limpert

Signature: Stefanie Limpert Date: 9/29/17

Acknowledgements

Special thanks to my Chair, Dr. Robyne Elder for her immense guidance through this process, and to my committee members Dr. Robert "Bo" Ricker, and Dr. Kelly Dickenson for their on-going support and pep talks that helped me persevere. A sincere thank you to the elementary school students and staff who participated in this study, and to all of my colleagues who were willing to think about student needs in a flexible way. Your insightful honesty has helped me grow as an educator.

I would not have been successful in completing this study without the incredible support of my family and friends. My husband Jason kept our family intact while I holed up in our room to write for hours on end. His love and support gave me strength. My daughter Kennedy provided "commercial breaks" and kept me grounded. Her tenacity is something I strive for. My son, Jakob, reminded me daily that I was loved and that he believed in me. His drive to set goals for himself and work ethic makes me incredibly proud. My youngest son, Caden, checked in on me often as he said, "a good son does". His humor and sweet nature give me such joy. This process wasn't easy on any of them, and I owe them everything.

Thank you to my parents who instilled in me the strength and determination to set and achieve goals for myself, and who told me they were proud of me when I needed to hear it, my sister for telling it like it is, and to my friends, who kept asking me to do fun activities even when I had to turn them down often to write, but who never rolled their eyes in response in front of me.

I will never be able to adequately express my gratitude to the people in my life. It is because of each of you that I am who I am.

Abstract

This study investigated the relationship between flexible learning environments and student attitudes about reading. Flexible learning environments are spaces wherein learners can choose from different seating or standing options, locations within the learning space, and the size group with which to work. This allows the learner to find the environment that he or she learns best in. The researcher sought to understand if flexible learning environments and the autonomy to choose from the aforementioned criteria improved student attitudes about reading.

To evaluate the relationship between flexible learning environments and student attitudes about reading, the researcher interviewed and surveyed teachers, and observed and surveyed fourth graders at a St. Louis County public elementary school. The fourth-grade classrooms consisted of varying degrees of established flexible learning environments, yet the students had experienced traditional style classrooms prior to fourth grade. Given this dynamic, these students had a solid perspective of both classroom styles and were able to accurately reflect on and articulate personal feelings about reading and their learning environments. Teachers surveyed and interviewed had, at some time in their career, designed traditional and/or flexible learning environments in their classrooms.

The researcher utilized qualitative analysis to examine the relationship between flexible learning environments and a change in student attitudes about reading, investigated the relationship between teacher experience and the influence on perspectives regarding style preference of learning environments, and analyzed student

perspectives about the relationship between their learning environments and their attitudes about reading.

The results of this study indicated that in the study school, teachers' professional experiences influenced classroom design, and student attitudes about reading were improved as a result of being provided opportunities to choose where and how to sit, and having the autonomy to choose the text they read during independent reading periods. The relationship was not solely related to the environmental features often found within a flexible learning environment.

Table of Contents

List of Tables

List of Figures

Chapter One: Introduction

Background

Historically, learning environments have been teacher-centered accounting for the organizational needs of the teacher and less about the sensory needs of the student. In years recent to this writing, educators began looking at personalizing the learning experiences for students, and while much was researched about differentiation of academics to meet the needs of learners, still little was studied about providing flexible seating options to change student attitudes or behaviors.

Toffler, a well-known futurist who reported on the digital revolution believed that schools were not preparing students for the careers that they would encounter in the future, or the pace at which they would have to perform in those careers (as cited in Daly, 2007, paras. 4, 10, 21). Providing flexible learning environments that were student-centered and allowed children to make choices about how and what they learned could increase motivation among students. When students felt connected and had a sense of control over their learning, they were more successful learners. Relinquishing control could make teachers feel uneasy, but for change to occur and benefit children, educators must take a leap of faith (Ostroff, 2016, pp. 60-61).

Colton, Langer, and Goff (2016) wrote, "For real change to occur, individuals need to experience some dissonance between the beliefs that they hold and what they are experiencing" (p. 13). The way in which educators current to this writing experienced their own schooling, and subsequently were taught to teach children did not match the needs of the children they then-currently educated. Teachers, and truly the entire education system, needed to reevaluate then-current practices and how shifts in practice

might better suit the needs of the learners. Children needed opportunities to practice the skills necessary to be successful adults in careers that had not even been created at that point in time. Within the classroom, students would be motivated to learn, and appreciate learning more if they were given the autonomy to exercise choice, fail or succeed, and problem solve with the support of the teacher. These skills could be developed only with practice, so educators must make changes that move the system away from the traditional schooling model, to that of a flexible learning environment.

Flexible learning environments are spaces where learners move, make choices about their learning, and have opportunities to be creative and collaborative. Drapeau (2014) wrote, "Helping students develop as creative problem solvers gives them a valuable survival skill for their future education, careers, and citizenship" (p. 122). Educators could no longer think in the here and now, but instead, of the future and how the decisions being made for children at the time would affect their future successes.

Problem and Purpose

At the time of this study, the researcher was an administrator in a public elementary school in the Midwest and as such, dealt with student misbehaviors throughout the school day. It was noted that students were often sent to the office during longer stretches of independent work periods. The researcher began to question why these students were struggling to maintain expected behaviors when tasked to work independently. Through conversations with students and teachers, additional wonderings arose that questioned the source of misbehavior as being an academic struggle or if there was an environmental cause.

After taking time to build trusting relationships with the students who were sent to the office on regular occasions, there was less concern with how the learning environment might change the academic success of students, and more about how it could change students' attitudes, thus improving the behavioral success of students. If it was determined that students' feelings improved as a result of being in a flexible learning environment where they had the autonomy to choose where and how they learned, then behaviorally they would be more successful and remain in their classrooms to read for longer blocks of time, which could, in the long run, lead to improved academic success.

For the purpose of this study, the researcher sought to understand the relationship between personalized learning spaces and attitudes about reading as the initial step to eventual academic success. Keeping in mind that research showed students learned best when the content and delivery of instruction was personalized, the researcher questioned if a personalized environment, wherein learning takes place, would improve student attitudes about reading.

Research Questions

The researcher investigated the following research questions:

RQ1. What is the relationship between student attitudes about reading and a flexible learning environment?

RQ2. How do student attitudes about reading change when they have the autonomy to choose from flexible seating options?

RQ3. What is the relationship between teacher experience and classroom environment design?

RQ4. How do students feel their needs are met environmentally within the classroom?

RQ5. In what ways do students notice differences between traditional and flexible learning environments?

RQ6. In what ways do students notice a relationship between learning environments and their attitudes about reading?

Limitations

This study was limited to one public elementary school in the Midwest. Student participants were limited to four fourth-grade classrooms with a total of 83 students. Fifty-seven of those students chose to participate in the student survey, and no students were excluded by the researcher.

The researcher was an administrator in the school where this study took place. As such, students may have behaved differently during classroom observations than had she not been in the classroom. Secondly, the researcher prompted students with instructions for the online survey and she remained in the classroom while students worked to complete the survey; therefore, students may have been more conscious of the researcher's presence while taking the survey.

Comfortability with teaching reading and the fidelity with which teachers reported their classroom practices were limitations to this study. Observations completed by the researcher were an additional limitation as there could have been bias in perception.

Definition of Terms

For the purpose of this study, terms are defined:

Flexible classroom: "Flexible classrooms give students a choice in what kind of learning space works best for them, and help them to work collaboratively, communicate, and engage in critical thinking" (Edutopia, 2015b, para. 1).

Flexible learning environment: "Flexible learning spaces are made up of many different sized spaces so they can support different ways of teaching and learning and be used for different types of activities" (New Zealand Ministry of Education, 2016, para. 8).

Silent-sustained reading: "A block of time each day -- usually anywhere from ten to thirty minutes, depending on the grade level and the ability of the students -- for quiet reading" (Hopkins, 2007, para. 1)

Standard definitions are:

Aromatherapy: "the use of aroma to enhance a feeling of well-being" (Aromatherapy, n.d., p. 1).

Brain break:

> A brain break is a short period of time when we change up the dull routine of incoming information that arrives via predictable, tedious, well-worn roadways. It refreshes our thinking and helps us discover another solution to a problem or see a situation through a different lens. During these few minutes, the brain moves away from learning, memorizing, and problem solving. (Edutopia, 2015a, para. 2)

Competency: "an ability or skill" (Competency, n.d., p. 1).

Kinesthetic learners: "Kinesthetic learners prefer to learn by direct experience, and learning transpires as a result of what was done rather than what was said or read" (Teach the Earth, 2016, para. 2).

Learning modalities: "How students use their senses in the learning process. We commonly consider four modalities: *visual* (seeing), *auditory* (hearing), *kinesthetic* (moving), and *tactile* (touching)" (Education.com, Inc., 2013, para. 1).

Paradigm shift: "an important change that happens when the usual way of thinking about or doing something is replaced by a new and different way" (Paradigm Shift, n.d., p. 1).

Personalized learning: "a diverse variety of educational programs, learning-experiences, instructional approaches, and academic-support strategies that are intended to address the distinct learning needs, interests, aspirations, or cultural backgrounds of individual students" (Personalized Learning, 2015, para. 1).

Proprietary design: "something that is used, produced, or marketed under exclusive legal right of the inventor or maker" (Proprietary Design, n.d., p. 1).

Tenure: "a policy which gives professors and teachers a permanent contract, effectively ensuring then a guarantee of employment" (Education.com, Inc., 2014, para. 2).

Summary

This study was conducted to determine if there was a relationship between learning environments and student attitudes about reading. At the time of this writing, personalizing learning through differentiation was an established concept within the education system, as was addressing the sensory needs for students with Individual Educational Plans and diagnosed medical needs, but little research had been conducted to support providing flexible seating options for all students within a classroom.

The researcher worked closely with students who struggled to maintain to task during blocks of time when students completed independent work, and were often sent to the office so as to not disturb their peers. Through conversations and building trusting relationships with these children, the researcher sought to determine how to meet the needs of these students environmentally, and thus help them remain on task in their classrooms, so as to increase the amount of time spent learning with peers.

The study was conducted at a public elementary school in the Midwest and utilized input from both teachers and students via online anonymous survey data, teacher interviews, and observations. Student participants had experienced both traditional and non-traditional, flexible learning environments, and teachers came from a variety of racial and ethnic backgrounds, as well as educational experiences.

Chapter Two: The Literature Review

Learning environments have historically remained unchanged in schools across America: individual student desks, stark white walls, anchor posters highlighting curriculum content and positive messages for students, a large teacher desk near the front of the room, and a chalk or dry-erase board for teachers to utilize during lessons. These classrooms met expectations but lacked verve. "In an aesthetic sense, the egg-crate architecture of factory-type schools represents a proprietary design that limits customization and flexibility" (Horn & Staker, 2015, p. 209). While these traditional school models worked well a century ago, during the industrialization era when the goal was to standardize teaching and learning so that graduates could take industrial jobs in factories, they did not meet the needs of students who graduated to careers that required knowledge and problem-solving skills (Horn & Staker, 2015, pp. 6-8).

Many teachers attempted to counter the bland nature of the brick and mortar school settings by adding colorful curtains, bookshelves, and organizers and rugs. This was a veiled attempt to provide a visual improvement to an otherwise sterile environment, but these efforts were misguided. Rather than considering the aesthetics, educators should consider transforming classrooms into active learning environments that elicit conversation and collaboration (Baepler, Brooks, & Walker, 2014, p. 16). This could be accomplished by adding functional furniture that invites students to interact with one another, but consideration must be made to meet what the students in the space need. Personalization is a key factor to creating a learning space in which students feel excited to actively participate. However, with limited resources, variances in personal taste and

grade level, and lack of knowledge around active learning environments, children may miss the benefits of inviting and personalized learning spaces during their education.

Aesthetics is a largely subjective matter, and an attempt to reign the term 'inviting learning space' into one definitive definition is likely futile. With that said, the researcher adjusted the term 'inviting' to a more definitive term, 'personalized learning spaces,' for the purpose of the study. Merriam-Webster (online) defined "personalized" as, "to change or design [something] for a particular person" (Personalized, n.d., para. 1).

Personalization by nature allows an individual to feel important and have a sense of belonging. When a person feels this sense of belonging in an environment, he or she becomes more invested in ensuring the space, and those residing in it, are treated well and succeed. As such, it is crucial for educators to examine the spaces they inhabit professionally and consider how those spaces affect the success and sense of belonging their students and families feel. Without such examination, schools may continue to remain the stark, lifeless spaces that have historically housed our most precious commodities - our children.

Traditional Schooling

In an article titled, "A Brief History of Education," Gray (2008b) provided a brief history of how the education system evolved over time (para. 5). Both Gray (2008b) and Baepler, Brooks, and Walker (2014) noted that humans evolved from the hunters and gatherers of long ago. When humans were hunters and gatherers, they learned by doing. Failing or succeeding was the initial type of education. Children would learn about living off the land by mimicking their parents and through the trial and error of exploration. As agriculture became big business, child labor in the fields superseded the need for children

to learn new things outside of the rote work to support the family. Then, as factories became more prevalent, and the need for cheap labor increased, children moved indoors to work.

During this industrialization era, when urban expansion revolutions became prevalent, the main purpose of 'educating' children was to produce laborers, thus the goal of schooling was for children to learn to follow directions, conform, and to develop stamina in preparation for long hours in a factory (Gray, 2008b, para 8; Treviño, 2011, para. 14). During the 16th century, factories became 'more automated' and societal conditions began to decrease the need for child labor. This change led to the formation of the formal school setting known as the one-room schoolhouse.

While children learned to read and write, the primary purpose of these early schoolhouses was to, "turn children into good Puritans" (Gray, 2008b, para. 13). These schools provided reading instruction and moral values often by using the Bible, and also sought to teach students the skills that would help them earn a living (Lagemann, Geiger, & Woloch, 2014, para. 3). All in all, formal schooling was historically about teaching children what adults deemed important and in the ways in which adults thought children should learn. Over time, schools stripped the natural way in which students learned by increasing structure in the curriculum, and thereby training students to conform and obey rather than explore and defend new thinking (Gray 2008a, paras. 14-19; Turner, Abercrombie, & Hill, 2006, para. 2). When a child was placed in an educational institution and his or her desire to learn was stripped away, one could imagine the repercussions that followed.

If schools continued to run as they had traditionally been run, they would deem themselves extinct much like the dinosaurs. Creativity and collaboration would be necessary to success as adults, so educators could not in good conscious run schools like the factory models of yester-year without damaging the potential futures of the students they served (Gray, 2015; Horn & Staker, 2015, pp. 8-9). Zhao (2009) wrote, "Schools have been generally found to be either indifferent to or suppressive of creativity because they demand conformity and obedience" (p. 92, para. 2). There were different goals in the past than there are at the time of this writing, in today's society, and the goals of tomorrow are not fully yet known, so depriving students of a personalized and rich experience wherein they can hone their creative and problem-solving skills would continue to prove an ineffective model for schools (Horn & Staker, 2015, pp. 8-9).

It was clear there was a need for change within the traditional model of education, because it was not working to meet the needs of the modern child. There was no longer a drive to learn that came naturally to children; because too often, teachers presented information and answers to problems without allowing students the autonomy to explore new ideas and thinking. Children were required to be educated, and for those that had no choice but a school setting, they were not inspired to learn just because they were in the space. There must be personalization and inspiration coupled with relevant content in order to spark interest and a drive to learn (Gray, 2016b, para 7-8; Goodwin, Lefkowits, Woempner, & Hubbell, 2011, pg. 80). Traditionally, there was status associated with attending school and getting an education, and that status was no longer present. All children in America were entitled to a free and public education, which results in children

who, for the most part, attended school because they have to and not because they had a deep-seated urge to be there.

Teachers in the traditional education system were required to ensure that students met annual criteria and were held accountable to these measures based on standardized tests regardless of individual needs or circumstances. There was no individuality associated with this structure, and much of the autonomy that compelled a teacher to meet the needs of his or her learners was lost when there were such constraints placed on the educator. In his *Manifesto*, Moravec (2015) stated, "The field of education lags considerably behind most other industries largely from our tendency to look backward, but not forward" (para. 3). At the time of this writing, education systems were governed by a political society that valued accountability over the needs of the child with no regard for the different experiences children encountered.

Modern systems were still structured by grade levels and ages rather than by skill attainment just as it was in the 19th century. Societal expectations of the educational system indicated value in continuing what had always been done in education, children deserved an enlightened education that focused on them as individuals and as parts of a global community in which they would need to contribute (Mushi, 2015, pp. 14-18).

Moreover, educators generally put more emphasis on knowledge as a revelation of truth rather than on the process of discovery, and more often than not, the educational strategies utilized to teach this knowledge were recycled in to new packages served up with a shiny bow and a new name. Because high stakes testing assessed the acquisition of skills and not the process or learning, it was no wonder that educators looked to what worked in the past to shape learners of the future (Barell et al., 2010, pp. 54-55). When

considering that learners of both at the time of this writing and of the future will have vastly different needs and goals than those of the past, this strategy makes little sense. When educators spend time recycling the old, and setting a tone of structure and blind obedience, students miss the opportunity to practice what they will encounter in their future professional realms.

Traditional schooling must evolve or run the risk of becoming obsolete. Students customarily had not had the opportunity to exhibit autonomy within the learning environment thus limiting their abilities to develop skills that would improve their abilities to develop and maintain interpersonal relationships which could result in a prosperous career. In long-established school environments, students experienced a 'one-size-fits-all' approach, when what was best for children was for their educational experience to be personalized; tailored to meet the individual needs of each child (Horn & Staker, 2015, pp. 8-9). There is little emphasis on students at any level having the autonomy to choose what they learn, how they learn, and the constraints by which they will learn.

In her book, *Wounded by School: Recapturing the Joy in Learning and Standing Up to Old School Culture,* Olson (2009) wrote about the seven wounds students experienced as a result of their schooling (pp. 30-53). She listed the seven wounds as: creativity, compliance, rebelliousness, underestimation, perfectionism, and wounds that numb. These wounds were shared by students, parents and teachers alike, and were not wounds visible by the naked eye. Instead, these wounds were the deep experiences that shaped post-education adults, or those that made students self-conscious about their abilities in a subject area. Parents experienced wounds when their children experienced

wounds, because they were unable to change the situation. For teachers, wounds resulted from the inability to do what was in the best interest of children because of systemic oppression (Olson, 2009, p. xv). In an article titled, "How Does School Wound," in *Psychology Today*, Gray (2011) summarized the 'Wounds of Rebellion' as experienced by students who rebelled against rules or assignments they deemed arbitrary rather than complying like their peers. They had disdain toward the school system and the teachers who set these rules, along with the students who did comply, and generally would act out behaviorally as a result of their feelings.

Male students were showing the biggest signs of rebellion against school and reported that it was something they endured because there was no other choice, until they were able to drop out and learn a skill or trade (Gray, 2008a, para. 4). Of the male students who struggled with the wounds brought on by school, Black males historically encountered the most difficulty staying motivated to remain in school. Many did not feel liked or respected by their teachers, because the teachers did not take the time to learn about and appreciate their learning styles, life, and aspirations outside of school. In other words, they did not feel connected (Sax, 2007, pp. 9-19).

The time has come to evaluate traditional school models and instructional practices, and determine how education can finally evolve for the good of all children. Educators must consider how children learn and what changes need to be made, in order to be responsible practitioners. Traditional schooling was not how we could best meet the needs of students, and it certainly was not the way to the future success of the education system.

How Children Learn

When teachers put the needs of their students at the forefront of decision making, a plethora of possibilities arise. Tomlinson (2003) wrote that teachers must understand that all children had the same basic needs, such as affirmation, purpose, and power, and that these needs were manifested in different ways based on the individual (pp. 19-20). As teachers grasp this understanding, differentiation occurs, learning becomes relevant, spaces become personalized, and student achievement gains momentum.

Teachers utilized a variety of methods to determine the needs of their students. Relationship building through conversation was a thoughtful approach to understanding the needs of students. Learning about their culture, race, the challenges they faced, and the aspirations they held for themselves could help teachers develop a deep understanding of the needs of each individual. Learning modalities and interest surveys were another way in which a teacher could elicit information from each individual student, using the data from the surveys to drive instruction and differentiate teaching strategies and approaches.

The concept of using data to drive instruction and style was not 'new' by any means. "Differentiating instruction focuses on the uniqueness of each child's life as well as its commonalities with all other lives" (Tomlinson, 2003, p. 24, para. 3). Educators studied the effects of differentiated instruction for many years and as a result, were successful in raising assessment scores. "The teacher brings to a successfully differentiated classroom the constructive attitude of approaching teaching as if each student was a family member: *What would I want my child to experience?*" (Kingore, 2004, p. 14, para. 2). When learning is meaningful and personalized for the individual,

the learner is better able to develop the critical 21st century skill set of not only understanding but also transferring their learning to new applications.

Personalization occurred when an individual's needs are met. These needs may have had commonalities with other individuals, but were unique to the experiences that each person encountered. The senses could play a key role in bringing uniqueness to the response of an experience. Educators theorized that there were four modes of learning: visual, auditory, kinesthetic, and tactile. By using the senses that the learner responded best to, learning was more relevant and processed more readily (Smialek, n.d., para. 2). How a person gathered, interpreted, and saved information was unique to the individual and was widely determined based on his or her learning style. "Research shows us that each learning style uses different parts of the brain. By involving more of the brain during learning, we remember more of what we learn" (Learning-Styles-Online, 2017, para. 6).

Understanding a child's learning style allowed an educator to better design the learning opportunity in the classroom, while personalizing the experience thus tapping in to more areas of the brain and increasing the learning potential.

There are several resources that spoke to learning styles, but *Learning-Styles-Online* (2017), described the seven main learning styles and the parts of the brain that managed these styles of learning:

Visual (Spatial) – Students who are visual learners prefer using pictures, images, and spatial understanding. The occipital lobes at the back of the brain manage the visual sense. Both the occipital and parietal lobes manage spatial orientation.

Aural (Auditory-Musical) – Aural students prefer using sound and music. The temporal lobes handle aural content. The right temporal lobe is especially important for music.

Verbal (Linguistic) – Students who learn best through verbal means prefer using words, both in speech and writing. The temporal and frontal lobes, especially two specialized areas called Brocas and Wernickes areas (in the left hemisphere of these two lobes).

Physical (Kinesthetic) – Kinesthetic learners prefer using the body, hands and sense of touch. The cerebellum and the motor cortex (at the back of the frontal lobe) handle much of our physical movement.

Logical (Mathematical) – Logical students prefer using logic, reasoning and systems. The parietal lobes, especially the left side, drive our logical thinking.

Social (Interpersonal) – Social learners prefer to learn in groups or with other people. The frontal and temporal lobes handle much of our social activities. The limbic system has a lot to do with emotions, moods and aggression.

Solitary (Intrapersonal) – These learners prefer to work alone and use self-study. The frontal and parietal lobes, and the limbic system, are also active with this style. The limbic system also influences both the social and solitary styles (Learning-Styles-Online 2017).

Contradicting research does not support style-based instruction based on learner profiles, but rather based on content. Rohrer and Pashler (2012) suggested that some academic subjects lent themselves more naturally to visual instruction, while another subject like mathematics may be better suited towards a kinesthetic style of learning (p.

635). Considering a classroom of the average 23 students, logistically speaking, teaching to each learning style for one content area was a demanding task. Focusing on designing lessons that were effective and coherent to the learner should be the primary goal of the educator.

Undeniably however, each learning style used different parts of the brain, and it was imperative to involve multiple parts of the brain during learning so as to maximize the learning opportunity. These styles "can change with age, are not fixed, and can be influenced by cultural background or gender" (Miller, 2007, para. 4), and should be considered fluid among learners young and old. In a report about a study conducted about the Experiential Learning Theory (ELT) and how it related to learning styles and acquisition of knowledge, Kolb and Kolb (2005) wrote that individuals often referred to themselves as learners in a fixed state, unable to attain knowledge when presented in conflicting styles (p. 199). Educators must provide opportunities for students to explore how others learn and practice learning in ways that utilize different learning styles throughout the course of their education.

As students are given opportunities to intermingle with peers, they may develop new learning styles and better develop related parts of the brain. "Children are biologically designed to pay attention to the other children in their lives, to try to fit in with them, to be able to do what they do, to know what they know" (Gray, 2016b, para. 3). Educators must provide authentic learning opportunities wherein children can interact with one another. In his article titled, "The Culture of Childhood: We've Almost Ruined It," Gray (2016b) continued to argue that, by interacting with peers without the influence

of adults, they were more likely to learn valuable and useful lessons that adults could not teach.

These interactions came naturally to children and taught them necessary social and emotional skills they would need as adults. When considering how children learn, creativity and exploration must be examined. Psychologists and teachers alike noticed a decline in creativity among children. Many believed the high-stakes testing environment, that is the school system at the time of this writing, stripped children of their natural desire to explore and create. When children were allowed to follow their curiosity, they had a deeper appreciation for learning, and in turn cognitively retained more knowledge (Gray, 2016a; Ostroff, 2016, pp. 2-6).

Understanding how children learned, it was imperative that educational institutions provided intellectually stimulating environments where children could develop as individuals alongside peers (Gray, 2015). In her booklet, *How Children Learn*, Vosniadou (2002) supported the need to consider individual differences. "Schools must create the best environment for the development of children taking into consideration such individual differences. (Vosniadou, 2002, p. 25, para. 1). If schools did not become more responsive to how children learn, there were opportunities for children to learn in other spaces. Such learning was often self-directed, and rooted back to those 'hunter-gatherer' days of exploration, trial, and error. From the first day to the last, the classroom environment spoke to each child. It communicated to the child if he or she was welcome to explore, be themselves, communicate, and if they were partners in the learning process. The teacher was the primary source of how the physical space was

arranged, but he or she must be cognizant of the climate those decisions reflected (Tomlinson, 2003, pp. 37-38).

Gray (2010) conducted a study in 2010 about children diagnosed with Attention Deficit Hyperactivity Disorder (ADHD). These students parted ways with the traditional education system and were then either "homeschooled, unschooled, or free-schooled" (para. 1). In his study, Gray (2010) requested that students in these non-traditional educational settings share stories about their decisions to leave traditional brick and mortar buildings and systems. Several respondents revealed that being in a space that reflected their unique learning needs not only accelerated their learning potential, but often helped them to reduce the use of medications to keep them focused and on task in the traditional setting. The allowance of autonomy to choose when and how to learn helped students gain confidence and improved their academic success, giving credibility to the idea that when students' needs were met and put above teacher needs within the learning environment, they could find success.

Personalized Learning

Personalized learning has been a focus of educational research for decades, and has been shown to increase the success of students. Horn and Staker (2015) defined personalized learning as "learning that is tailored to an individual student's particular needs – in other words, it is customized or individualized to help each individual succeed" (pg. 9). Traditionally the focus of teaching and learning centered on individualizing instructional strategies and procedural structures for students. While teachers had long since seen the classroom space as a place to decorate, there was a gap

in literature discussing the relationship between the learning environment and student attitudes about reading.

"The teacher's role is to develop a classroom environment that embraces creativity" (Drapeau, 2014, p. 14). Without creativity, students were left in space with content that they were likely disinterested in, and could not relate to. Teachers must seek to know their students in deep and meaningful ways. "Collaborative inquirers facilitate their students' learning by coming to know them as people and learners, and then using what they learn to identify and apply appropriate and effective evidence-based culturally relevant teaching" (Colton, Langer, & Goff, 2016, p. 32). When teachers provided opportunities for students to develop their creativity through curiosity, imaginative play, collaboration with peers, and questioning skills, students developed a sense of connectedness and were more apt to be intrinsically motivated to learn. Classroom design spoke to what opportunities children encountered. Teachers must be mindful of how furniture was arranged so the function and flow of the classroom space cultivated curiosity (Ostroff, 2016, pp. 50, 65-69, 89-94, 127-130). Historically, traditional learning spaces and the teachers that taught in them, did not cultivate curiosity.

Research supported that "traditional classrooms are failing to meet the learning needs of many students and that the redesign of facilities can play an important role in rectifying the situation" (Thornburg, 2014, p. 5). That being said, educators must recognize the importance of creating spaces that enhance the learning experiences of their students; considering space, furniture, color, and other elements of the environment that would aide in the success of students. Providing a space wherein comfort was a consideration was yet another opportunity to meet the needs of children. Being

comfortable while learning impacted students' abilities to stay alert and focused on the task. According to Baepler et al. (2014), students reported that a relaxed atmosphere "makes it easier to concentrate" and "keeps [them] awake" (p. 47). Other students shared that when the room felt more like a living space and less like a traditional classroom, they felt more comfortable and were able to focus (p. 47). Educators must also consider how work environments might evolve over time, and how structures in the workplace will likely change to support the need for a less structured, non-traditional learning environment.

Educators must consider not only individual student needs, but also careers of the future, when designing lessons and learning spaces. Meeting the learning and environmental needs of the students based on who they were while in school, and what they will encounter in the future, teachers had the opportunity to help students flourish both academically and behaviorally throughout their educational experience. Student success must be at the forefront of decision-making, and if researchers have found that a varied physical environment was a large part of academic achievement, teachers should not continue to practice as if it is not.

When considering brain research and how it connects to student learning, educators can transform the educational experience for their students. Having a basic understanding of the two sides of the brain could help educators in this matter. The left brain processes information logically. It is designed to break down facts, find order and patterns inside information, and is geared towards the math and sciences. The right brain processes information creatively through "emotions, symbols and images" and is geared towards the arts, literature, and philosophy (Furnham, 2017, para. 6 & 8). It is not

conducive to rest within one side of the brain, but rather travels between both sides when thinking and doing. It is also important to determine the side of the brain where the individual has deficits and practice skills that develop that side of the brain; another aspect of personalized learning. In understanding this, teachers could design learning opportunities that not only highlight students' attributes, but also help them exercise the areas that are deficient.

Educators must bear in mind brain research when considering personalized learning and content reading at the elementary level. Biffle (2013) wrote, "If you like, or don't like what you are reading, your limbic system is involved" (p. 19). With that being said, it would behoove educators to have a greater understanding of the brain and its many intricacies so students could benefit from "whole-brain" learning. Children needed the opportunity to talk about what they were reading, and it was important that this not solely occur with the teacher. Students needed to speak with one another so as to deepen their understanding of, and appreciation for new learning. When students were in a learning environment that supported their educational and emotional needs, and were given opportunities to interact with their peers, more areas of the brain were activated and learning was elevated.

In her article titled, "The Neurochemistry of Power Conversations," Glaser (2017) reported that our nervous systems were constantly evaluating the environment and making internal neurochemical adaptations (para. 4). There was a relationship between these adaptations and our range of feelings, thoughts, behaviors, and most importantly, our conversations. In turn, the resulting feelings from a conversation could have an effect on one's neuropathy. When a person left a conversation feeling negative or fearful, the

cortisol levels increased and the thinking part of the brain shut down. During and after positive conversations, bodies produced oxytocin which elevated the ability to be innovative, creative, empathetic, and strategic with others (Glaser & Glaser, 2014, paras. 3-5). Connecting conversations among and with students to the subsequent resulting behaviors could lead educators to be conscious of student attitudes in the learning environment.

Providing flexible seating options was another way in which educators could personalize learning and increase the success of the students they worked with. Students needed options that included standing, sitting, laying down, or even rolling and bouncing. Springer (2010) wrote that while "sitting is natural, remaining in one position for a long period of time, is not natural, and that both macro- and micro- movements are essential for our well-being" (p. 1). Thinking about environments in which children and adults worked when they were not in a formal working space was key to understanding why it was important to provide options. When at home, children and adults often sat on a couch, lay on their beds, or perched near a kitchen island to study, read, or write. Educators must provide spaces that mimic these home-inspired areas so students can feel comfortable while learning and focus on the task at hand.

Finally, educators needed to consider movement opportunities for their students. 'Brain breaks' and 'motor breaks' were two examples of types of movement teachers could embed in their routines each day, and elementary teachers needed to ensure students had the opportunity to move every 20 to 30 minutes. These could be structured movement opportunities, or could be transitions from one lesson to another. Blatt-Gross (2015) stated that as she conducted research to find the right school placement for her

own children, she reflected on her practices as a professor and began to incorporate more movement within her classroom. She reported that she had seen an increase in student participation and engagement as a result of more movement and conversation among students (section 5, Finding the Right Fit).

Educators could use each of these models to personalize the learning environment, benefiting students in a variety of ways. One must be cognizant that what was beneficial to one student may not be beneficial to another. Because of this, it was important to provide varied approaches within the school day, so as to reach the greatest number of students, keeping in mind the information gleaned from interest and learning surveys and the way in which the body of students in the room learn. "Knowing the students, their limits and strengths, is key to understanding what techniques might work best" (Blatt-Gross, 2015, para. 28). Teachers should take in to account that these limits and strengths will change each year, so what worked one year, may not work for the next group of students.

Adults were influential to the development of children by improving learning through the environments they created, so providing opportunities for movement, play, and interactions with peers were ways in which students could naturally develop academic and social skills (Gray, 2015, para. 5; Gray, 2008a, para. 8). In 2011, Richardson was a principal designer for a global innovation firm and advocated for play in the classroom and workplace. She wrote that there was a creative crisis in the United States and adults must instill in children the importance of creativity and innovation. Education should shift from assessing memorization to the ability to manipulate, morph, and move as indicators of progress (Richardson, 2011).

Cultures that valued a child's freedom to learn often encouraged children to explore in supportive and trustful environments through the form of play. Play was a way in which children acquired "skills and ideas that are valuable for negotiating the real world", and when adults provided a trusting and supportive environment, children felt secure and confident to take control of their own learning (Gray, 2011, para. 13; Gray, 2014, para. 7). 'Play' in education was imperative when considering the profound need to develop critical thinking skills.

Stories were a way to not only learn about the beliefs and values of a culture, but to also develop critical thinking skills when analyzing how characters navigated and resolved the conflicts and dilemmas. Ostroff (2016) wrote that educators must help students find personal connections to stories through collaboration and communication. Students cannot only listen to stories; they must tell them too (pp. 71-72). Educators needed to develop these skills in children over the course of time, recognizing that interest, not intelligence, was often the catalyst for the timing of when students were receptive to learning (Gray, 2014, 2015). This information should not deter educators from teaching critical thinking skills early and often. Students needed to be exposed to these skills when they were young so as to improve their abilities to understand new information and use it to adapt to new situations (Williams, 2015, p. 9). By designing learning environments that establish a culture of exploration, creativity, and play, educators were preparing students for future careers that required these skill sets.

Sensory

In 2013, Biffle briefly described how the brain worked in his book, *Whole Brain Teaching for Challenging Children*. The human brain is divided in to two hemispheres,

with each hemisphere divided into areas that each perform integral jobs when thinking, moving, and learning. Because of this make-up, it was vital that educators tap into as many areas as possible when working with children, understanding that neuronal dendrites grew as increased brain areas were involved in the process, thus creating deeper and longer-lasting learning (Biffle, 2013, pp. 18-26). Teachers could increase the learning potential of all students by engaging the brain through the senses. Consider Starbucks, a multibillion-dollar company, which has been acclaimed for its attention to detail and subtle engagement of the senses. Starbucks believed that, "not only must details be right, but the blending of those details must be carefully crafted to make sure that every aspect of the experience comes together" to create a "whole-brain" experience (Michelli, 2007, p. 52).

Senses played a key role in transforming our mindset and making an experience more meaningful. Sights, sounds, taste, and touch could each be a variable that changed an ordinary experience to one that was extraordinary. Being able to fully immerse oneself in an environment using his or her senses, and therein having a deeper connection to the learning experience, made it more relevant. Connecting imagination to emotional and intellectual thinking created images that helped develop deeper understanding of content (Drapeau, 2014, p. 59). Educators had an opportunity to connect students' feeling and thinking by tapping in to the senses.

Creating a sensory diet specifically designed to meet the sensory needs of a student was a strategy that utilized activities scheduled according to each child's individual needs (DiMatties, 2015, section 5, para. 4). Tapping in to the senses increases awareness and the intake of information for a person. The senses increased brain activity,

and resonated with people personally through connections with life events, so "a multi-sensory experience is one of the most effective ways to create an unforgettable *[customer]* experience" (Margalit, 2017, para. 22). Ensuring that a student's experience was fully engaging and certainly unforgettable should be one of the primary goals of any educator.

There were several ways in which an educator could tap in to the senses of a student and thereby improve the learning experience of the student. Much like Starbucks, teachers might consider the choice of sounds, aromatherapy, kinesthetic options, seating, and colors when designing the learning space. "A classroom that has a space for students who need quiet as well as for those who need interaction is a more positive place for more students than one that provides for only one of those needs" (Tomlinson, 2003, p. 41). Thornburg (2014) wrote about getting to a state of flow within a classroom. When students had a balance of challenge and skill, they were in a state of flow and experienced optimal learning. This could occur through engagement in classroom learning, and it could also occur when students experienced a balance between anxiety and boredom within their learning environment (pp. 5-9). There must be a state of flow for learners to feel valued and work to be considered relevant to the student. Considering the needs of all participants was a key factor when designing a classroom experience.

Emotional connectedness was another important factor in gaining a deeper understanding of content, and through the area of the brain known as the limbic system people process smells associated with memories and emotions (Margalit, 2017, para. 7). Similar to selling a home and baking a pie or cookies prior to an open house, humans link aromas with emotions. Educators could use this information to the benefit of their

students by using aromatherapy in the learning environment, so students can, in theory, make connections to and gain a deeper understanding of content. In her 2017 article titled, "Sensory Marketing: The Smell of Cinnamon that Made Me Buy," Margalit (2017) informed readers that a person's decision-making processes are affected by variables involving the senses, and marketing practices confirm this theory. Clothing stores had scents that filled the stores to elicit feelings of sex appeal, and personal care stores, such as Bath and Body Works, were filled with sweet scents that attracted customers into the store and increased purchasing. The location of check-out registers and the scents and sounds that surround customers all factor in to the overall shopping experience (Margalit, 2017, para. 4). Understanding this concept could aide educators in designing a multi-sensory experience for students.

Educators would be wise to consider sensory processing when planning for instruction while understanding the ways in which children and adults process differently. Sensory processing was the way in which a person emotionally and physically responded to information interpreted from the environment (Dumsa, 2016, para. 1). Just as children and adults differ, so do children in age-alike peer groups. Children bring different background knowledge to each experience and process and respond in a multitude of ways when they engage in activities with one another. That background information and the sensory experiences that were associated with them cause children to process and respond differently from their peers (Thompson & Raisor, 2013, p. 35). Prior experiences helped determine how humans processed through the senses, so taking the time to learn about each child in the classroom was imperative to understanding the sensory needs of the children served.

Providing flexible seating options was one way in which teachers could connect sensory needs to students. "The relationship between the brain and behavior . . . explains why individuals respond in a certain way to sensory input and how it affects behavior" (DiMatties, 2015, section 2, para. 1). For example, creating a reading nook in the classroom with a bean bag chair or pillows provided a place for children to read comfortably with fewer distractions or stimulation from the busyness of the room. Some children may prefer to stand, sit on or lay under the bean bag chair, and still others might be found in a perched position when reading (Hall, n.d., para. 7). What stimulated the brain for one, may inhibit the learning of another.

Designing a flexible learning environment was one strategy teachers could utilize to meet the needs of all students and foster a climate of creativity. Without creativity, students were left with content that they were likely disinterested in, and could not relate to. Drapeau (2014) wrote that teachers needed to create an environment where students felt safe taking risks, making mistakes, and failing (p. 62). Colton et al. (2016) reported that by truly understanding their students in deep and meaningful ways, teachers could facilitate culturally responsive, creative learning and design environments that met the needs of their learners.

Research supported that poorly designed physical environments not only impeded learning, but also negatively affected the teachers teaching in the space (Thornburg, 2014, p. 2). That being said, educators must recognize the importance of morphing traditional structures in to spaces that enhance the learning experience of their students. Considering space, furniture, color, and other elements of the environment that would aide in the success of students. In 2012, a study was conducted to examine the effects of

the learning environment on at a university in 10 different classrooms. The classrooms were altered to reflect café-style characteristics that included varied heights of tables and styles of seating. Researchers wanted to determine if this type of environment facilitated more collaboration than a traditional university level classroom. The study revealed that both students and faculty felt the space improved collaboration, but that the size of the room coupled with the configuration of furniture was not as desirable. The study also determined that the people encompassing the space felt it was more comfortable and helped students stay alert and concentrate longer than a traditional learning environment. Natural lighting was also an element that students rated favorably (Baepler et al., 2014, pp. 44-47).

Educators must consider not only individual student needs, but also the careers of the future when designing lessons and learning spaces. Bearing in mind both of these factors, the children housed in the learning spaces would have a greater opportunity to flourish. Student success must be at the forefront of decision-making, and if researchers have found that a varied physical environment was a large part of academic achievement, teachers should not continue to practice as if it does not.

21st Century Careers and Skills

The reader may be asking how these approaches helped students in their future. Researchers deducted that careers of the future would rely on focus, creativity, energy, perseverance, and grit. Learning these skills while in school has a profound effect on one's ability to utilize these strengths when they are in a career of the future. Historically, "education has not undergone the same kinds of disruptive change other fields have experienced" and therefore could struggle to prepare students for careers of the future

(Goodwin et al., 2011, p. 32). Educators must adapt teaching strategies and learning environments to provide opportunities for students to think and act creatively, to increase stamina and grit, and improve focus so children are able to absorb and transfer the content they are learning. School leaders must be willing to create a culture that embraces innovative changes within the system (Barrell et al., 2010, p. 268). This 'disruption' to traditional teaching methods and learning environments would potentially create successful students who possess the attributes needed to be successful in 21st century careers.

In 2002, the Partnership for 21st Century Learning (P21) was formed. This online resource was developed through collaboration between educators, business leaders, and education experts, and defined the skills and knowledge necessary for students to be successful in future careers, life, and citizenship. These skills were divided into three categories: Life and Career Skills, Learning and Innovation Skills, and Information, Technology, and Media Skills. In the future workforce, adults would need to be innovative and think critically and creatively to solve problems (Gray, 2016a, section 4, para. 2). They would also need to have strong moral values and educators would need to provide opportunities for students to be innovative by using their imagination and creativity to solve problems.

In addition to the aforementioned character traits and work ethics that may be necessary in the 21st Century workforce, students would need to be empathetic citizens of a global community. To empathize was to see the world from another person's point of view and experience; an important trait when working in careers that will both employ and do business with a diverse group of people. In the workplace, empathetic leaders

related to the employees they served and were more successful because they created relationships built on honesty and dedicated interest (Boyers, 2013, paras. 2-3). There was a moral obligation for adults to help develop a sense of empathy in children through shared experiences and through the stories they read or heard.

Best Practices in Reading

The art of teaching reading cannot be discounted as a factor in the overall success in and attitude about reading. Too often a student's love of any subject was either derailed or intensified by the attitude, ability, instructional strategies, or personality of the educator they were in contact with; however, student ability was a measurable piece in the equation, and must be considered. Practices in education, at the time of this writing, included utilizing quality research-based resources. These resources would often credit the workshop model, which included conducting concise mini lessons, allowing ample time for independent practice and student choice, and conferring with students as resulting in a rise in student achievement. Teacher professional development and evaluation must be routine, and valid, to ensure teachers are held to high expectations within the classroom. Marzano, Frontier, and Livingston (2011) reminded educators that evidence of student academic growth coupled with evaluator observations was a valuable way to evaluate teacher effectiveness (p. 25). Having teacher leaders provide quality professional development, feedback, and modeling for colleagues was a useful way to increase teacher buy-in, and ease discomfort during times of increased rigor and expectations in teaching and instruction. Colton et al. (2016) developed the Collaborative Analysis of Student Learning (CASL) protocol wherein educators worked in a team format to analyze student work and assessments, so that adjustments to instruction

accurately reflect student needs. They believed that self-awareness was how educators could become culturally responsive in their approach to teaching and learning (pp. 2-3). It was important that building and district level leadership had a clear understanding of effective, research-based teaching practices, and that consistent monitoring of those practices included providing meaningful feedback during observations and in post-observation conversations to ensure teachers were providing the best learning opportunities for students.

Workshop model. As children begin to grow and text becomes more difficult, motivation to read declines leaving teachers struggling to keep growing students' reading abilities. The workshop model approach was one way students could find interest in reading and help strengthen their skills as readers, because they were afforded opportunities to make choices, work independently and alongside the teacher, and monitor their progress as readers (Cockerille, 2014, p. 37; Stevens, 2016, p. 64). Literature suggested that reading workshop models increased student engagement primarily because of student choice. With student choice came a heightened interest in the subject, which led to longer periods of time spent reading (Hudson & Williams, 2015, p. 533; Stevens, 2016, p. 65).

During reading workshop, the teacher first presented a 'minilesson' to the whole group of students that covered an effective reading strategy, then allowed each student to choose his or her own book to read independently, with peers, or the teacher. During this independent reading time, students practiced the strategies they learned and teachers spent time meeting with small groups of students or conferring with individuals (Calkins, 2015a, pp. 28-29; Fountas & Pinnell, 1996, p. 32). The workshop model provided

students with the skills necessary to bridge the gap between teacher-led reading and independent practice.

Minilessons. One important aspect of the workshop model was conducting targeted and concise minilessons. In her book, *A Guide to the Reading Workshop*, Calkins (2015a) reminded teachers that minilessons taught (or retaught) one reading strategy, but it was important to note that students should utilize the strategies they learned whenever it is appropriate, not just on the day it was taught (pp. 28-29). Minilessons, while taught in a whole group setting, should maintain an intimacy that draws learners in and connects them to the text and the strategy being taught. Minilessons should be just that, mini. Teachers take 10-15 minutes to connect to a story, teach the strategy, allow a brief amount of time for guided practice, and then link it to what has been previously learned. Barnhouse and Vinton (2012) wrote that this guided practice allows teachers time to "reinforce and affirm the work that readers do" (p. 32). Following the guided practice, students were then given varied stretches of time, dependent upon age, for independent reading.

Good educators understood the importance of independent reading practice, and great educators understood that this begins with explicit teaching about the skills and strategies that proficient readers use, and modeling thinking strategies while reading aloud (Calkins, 2015a, pp. 28-29; Harvey & Goudvis, 2007, pp. 46-49). Utilizing the technique of modeling adult thinking encouraged readers to read more deeply and make connections to text in more meaningful ways.

Independent practice and student choice. A key component of reading workshop is the time spent in independent practice. Hudson and Williams (2015)

reported that children must be given ample time to read each day, and one of the five key components of the workshop model was independent reading practice (p. 533). Another key component was students having choice in what they read during this independent reading time, because it increases engagement, and "engaged reading is not assigned reading, nor is it affected by extrinsic rewards. Engaged reading is reading that students do because they want to" (Carbo, 2007, p. 43, para. 7). When students had the autonomy to choose what they read, they had a vested interest in the content and feel in control of their learning (Allington, 2006, p. 61). Students needed to have opportunities to practice making choices about their reading so that teachers had opportunities to guide students if the choices they make were not in their best interest.

In the book, *The Voice of Evidence in Reading Research*, Guthrie and Humenick reported on what motivated children to read (as cited in McCardle & Chharbra, 2004). The two researchers analyzed 22 studies to determine the most influential factors of reading motivation and achievement, and found that the second-highest factor in motivating students to read was choice over what they read, who they read with, and where they read in the learning space (as cited in McCardle & Chhabra, 2004, pp. 331-332). In addition to student choice, educators need to consider uninterrupted time to read. Routman (2003) wrote that one of the most important things educators could do was give students the autonomy to choose books they wanted to read, and then give them time to read the books (p. 42). This independent reading time increased stamina among learners of all abilities, and coupled with choice, yielded a higher level of motivation to read and a higher educational success rate.

Conferring. Conferencing with students about the text they were reading was vital to connecting the minilesson to independent practice. However, "teachers usually like quiet classrooms, seeing the quiet as indicative of learning taking place", and conferring did not result in a quiet classroom causing many teachers not to utilize this strategy (Levy, 2015, para. 1). Levy (2015) wrote that interactions between peers and between students and teachers improved processing and increased retention of material. In non-interactive classrooms, one may be forced to wonder if students were actively engaged in the text in front of them, utilizing the time efficiently. In her *Reading Pathways* resource, Calkins (2015b) reported that conferencing with students was a way for educators to hold themselves accountable, and have a better understanding of the learning trajectories of their students (p. 143). While conferring, teachers were able to closely emphasize the strategy of the minilesson in an individual or small group setting and make deeper connections with students within their chosen texts. This time together steadily improved relationships within the classroom, which led to improved reading achievement.

Summary

Educators must provide learning opportunities that allow students to connect with content in environments that meet the needs of the learners. Research showed the importance of students feeling a sense of belonging in educational spaces through positive relationships with peers and adults, and by feeling that their sensory needs were supported.

Personalizing the learning experiences of children created a connectedness and allowed students to freely explore curriculum in more meaningful ways. When the

learning environment supported the needs of the children in the space, the learners were better able to focus, and had an improved desire to perform tasks. By tapping in to the sensory needs of each student, educators could create intellectually stimulating environments where children were uninhibited to explore new ideas and thinking thus preparing them for future-ready careers.

Chapter Three: Methodology

Overview

At the time of this writing, student academic achievement in traditional school learning environments had been widely studied. Non-traditional classroom environments, including flexible seating options, were introduced to students in school settings most recently, with very few studies identifying the relationship between flexible environments and student attitudes about learning.

The purpose of this study was to determine the potential relationship between flexible seating options attuned to individual student needs and attitudes about independent reading among all learners. Conducted in a Midwest public elementary school housing students in grades kindergarten through fifth grade, this study focused on a group of students who had experienced learning in both traditional classroom settings and flexible learning environments, and teachers who had a wide variety of professional experience and had taught in both traditional and non-traditional, flexible learning environments.

The teacher and student participants were asked to complete an anonymous online survey, which covered general questions regarding their educational backgrounds and present learning environments, as well as personal beliefs about reading. Teachers were also asked to participate in face-to-face interviews with a representative for the researcher. These interviews sought to delve deeper into teacher perspective about learning environments and reading instruction. Lastly, the researcher conducted observations of fourth-grade students and classroom procedures during independent reading blocks to compare observations with what students and teachers reported.

Research Questions

The researcher sought to find answers to the following questions:

RQ1. What is the relationship between student attitudes about reading and a flexible learning environment?

RQ2. How do student attitudes about reading change when they have the autonomy to choose from flexible seating options?

RQ3. What is the relationship between teacher experience and classroom environment design?

RQ4. How do students feel their needs are met environmentally within the classroom?

RQ5. In what ways do students notice differences between traditional and flexible learning environments?

RQ6. In what ways do students notice a relationship between learning environments and their attitudes about reading?

Research Design

This study was qualitative in nature so as to explore the function of student behaviors in the classroom environment, teacher perceptions about classroom environments, and student perceptions and attitudes about reading independently. The researcher chose a Midwest elementary school housing students in grades kindergarten through fifth grade. This school design was traditional in nature.

Classrooms in the primary grades (K-2) utilized tables and plastic student chairs, carpeted areas, bookshelves, and students had individual cubbies that housed supplies and books leveled for independent reading. Intermediate grade level classrooms (3-5),

generally used individual self-standing student desks and chairs in lieu of tables. In all cases, these desks were placed in a mixture of pods of four-to-six desks, rows of desks lined up side-by-side and touching, and scattered individual desks placed around the room. These classrooms also had a carpeted area and bookshelves that housed the classroom library; individual supplies, and leveled books for independent reading were kept in student desks.

Developing the Intervention

During the 2016-2017 school year, the administrators in the building shared research and articles supporting the benefits of flexible learning environments and flexible seating ideas. As a result, a slow cultural shift began to occur in this elementary building as teachers became more aware of the benefits of providing flexible seating options for all students, and not solely those with Individualized Education Plans (IEPs). Known as "collective teacher efficacy," the educators in this school building began to believe in and explore how they could work together to support one another, and in turn the students, so as to positively impact student achievement (Donohoo, 2017, p. 1).

The fourth-grade teachers in this building were the first teacher team that decided to redesign the classrooms to reflect a more flexible environment. The members of the team took it upon themselves to incorporate varied flexible seating options and utilized the help of the custodial staff to reduce the number of individual student desks. They replaced them with tables, altered the height of tables and desks to allow for the use of varied seating or standing options, and altered the lighting within the classrooms and hallways. Teachers also purchased diffusers to enhance the sense of smell, and one

teacher ran a box fan on occasion to provide ‘white noise’ to reduce distractions. In some cases, teachers provided other seating options such as exercise balls and camping chairs.

The fourth-grade students, until this time, had generally experienced traditional classroom settings, and as a result of the fourth-grade teachers’ adjustments in their learning environments, the students then had the benefit of experiencing a flexible learning environment. As such, these students were prime candidates to complete an anonymous online survey regarding their attitudes about the learning environment and reading within flexible environments.

In addition to online student surveys, it was important to gain a better understanding of teacher experiences and perceptions about the learning environment. One teacher from each of the grade levels, kindergarten through third grade, and one teacher from fifth grade in addition to all four fourth-grade teachers, were asked to complete an anonymous online survey. Both sets of surveys were designed by the researcher and requested information about the learning environment and perceptions about reading instruction and learning.

Surveys were one source of information from the professionals in the school building. Because the researcher was an administrator in the same building, a representative for the researcher conducted nine face-to-face interviews. The purpose of these interviews was to gain insight into the experiences of each individual, as well as a more in-depth understanding of teacher perspectives about flexible seating and student attitudes about independent reading. Teachers chosen for interviews varied in years of experience, prior service outside the study school district, the demographics previously served in other districts, educational advancement, and race and ethnicity.

One final avenue for data collection in this research was to observe students in their classrooms during reading workshop. In this Midwest public school, reading workshop consisted of 10 to 15 minutes in a whole group setting, wherein the teacher conducted a *minilesson.* This minilesson focused on a skill or strategy the teacher wanted the students to focus on while reading independently, such as finding the main idea in non-fiction text. Following the minilesson, the children were released to areas around the classroom to read independently.

While one goal of every independent reading period was to increase reading stamina, students were also tasked to spend the time applying the skill or strategy within a text that was appropriate for each child's reading ability. During this independent reading period, students read silently while the teacher moved around the room meeting with individual students or worked with small groups of students discussing text complexities, strategies, and skills. To culminate the workshop block, the teacher had students come back together in a whole group setting to discuss successes and continued work towards achievement of goals within the structure of the minilesson focus.

In the fourth-grade classrooms observed, reading workshop consisted of a 75-minute block of time during the morning hours, directly after math workshop. This tetrad of data collection provided a greater perspective for the researcher to determine if there was a relationship between flexible learning environments and student attitudes about time spent reading independently, as well as how teacher experience affected design of the classroom environment.

Participants/Sample Population

The participants of this study attended and worked in a Midwest public school in St. Louis County, Missouri. This study consisted of four data collection sources within the elementary school building, and to gather data both students and classroom teachers were sampled. During the 2016-2017 school year, the elementary school educated 485 students in grades kindergarten through five. The students in this sample group were in the fourth-grade population within this school; the entirety of the fourth grade consisted of 83 students.

All of the fourth-grade students were invited to participate in the anonymous online survey regardless of educational ability. Each family received a packet of information about the purpose of the study and survey, as well as consent and assent forms, in their child's weekly take-home folder. Families were given two weeks to return consent and assent forms to their child's teacher. Fifty-seven students turned in consent forms and participated in the online anonymous survey.

The researcher observed the fourth-grade students during the independent reading portion of the reading workshop. Four sessions of observations were conducted; one session in each of the four classrooms. All 83 students were observed during these 45-minute observations, which occurred over four days.

For the purpose of this study, it was important for the researcher to consider the perceptions and experiences of classroom teachers. Within this elementary school there were 28 full-time educators (FTE). To gain insight through an online, anonymous survey, a sample population of 10 faculty members was chosen to participate. Of the 10 classroom teachers invited, eight completed the survey. The participants reflected FTE

who represented a wide range of experience both in number of years and the populations of students served previously in other districts, and had a varied degree of educational training.

A second sample population of 10 teachers was asked to participate in an interview with a neutral representative for the researcher. Because the researcher was employed as an administrator in the same building, and to reduce coercion and bias, it was necessary to utilize a representative to conduct the interviews. The sample of FTE asked to participate in the interviews reflected a wide range of experience both in number of years and the populations of students served previously in other districts, and had a varied degree of educational training. Some teacher participated in both the survey and interview, while others participated in only one piece of data collection. For example, the fourth-grade teachers participated in both the survey and interviews, while one third-grade teacher only participated in an interview.

This group of FTE consisted of those that chose to design either traditional or flexible learning environments, and represented one teacher from each of the kindergarten through fifth grades. All four of the fourth-grade teachers were asked to participate because their students were surveyed and observed. It should be noted that the requested first-grade teacher chose not to participate, so a second third-grade teacher was interviewed in her place, as there were no other first-grade teachers available during the data collection period.

All student and adult participants were instructed that participation was voluntary and consent could be withdrawn at any time. Each online survey was anonymous and the interviews were audio-recorded and de-identified before submitting to the researcher who

then transcribed the recordings. Online surveys and recordings of interviews were housed in Google Drive, and all consent and assent forms were kept in a locked cabinet in the school's office.

The Research Site

This study took place in a Midwest elementary public school that educated 485 students of all abilities in grades kindergarten through five. During the 2016-2017 school year, the school reported student demographics to the Missouri State Department of Elementary and Secondary Education (Table 1).

Table 1

Student Demographics Reported During the 2016-2017 School Year

Student Demographic	Percentage Reported
White	81%
Asian	44%
Hispanic	22%
Black	18%
Multi-Racial	17%
Indian	0%
Pacific Islander	0%
Students on Free or Reduced Lunch	11%

Class sizes were higher than the school had historically averaged, but were well below the state-mandated maximums. During the 2016-2017 school year, class averages were recorded (Table 2).

Table 2

Class Averages Recorded During the 2016-2017 School Year

Grade Level	Class Average	Number of Sections
Kindergarten	24 students	3 sections
First	22 students	4 sections
Second	22 students	4 sections
Third	23 students	3 sections
Fourth	21 students	4 sections
Fifth	21 students	4 sections

It should be noted that this school was in its first year with a new building principal. The previous principal retired after serving the building for 14 years. The researcher noted a marked change in teacher behaviors, school culture, and climate as a result of new leadership, through observations, interactions, and conversations with staff. There were seven non-tenured teachers on a staff of 28 FTEs, and the assistant principal, the researcher, was in her third year in the position.

Development of the Instrument

Both a teacher survey (Appendix B) and a student survey (Appendix A) were created to assess perceptions about classroom environments and attitudes about independent reading. The researcher created the surveys, which consisted of open-ended questions and a number of multiple-choice options. In addition to the surveys, the researcher developed interview questions the research representative utilized during face-to-face interviews (Appendix C). The interview questions sought to delve deeper in to the perspectives of teachers regarding reading instruction and learning environments.

Finally, a classroom observation form was developed by the researcher to maintain consistent notes among all observations (Appendix D).

Data Collection Procedures

The researcher was the assistant principal at the site where research was conducted. As such, the researcher worked as an evaluator of the staff and disciplined students, which had the potential to introduce bias with regard to participant responses during interviews and on surveys. To reduce coercion and bias, the researcher appointed a neutral research representative that had no prior relationship with the population of faculty and students. This representative conducted the nine teacher interviews, then submitted audio of the interviews to the researcher via Google Drive.

All surveys were anonymous via Google Forms. The researcher introduced the survey to each set of students and remained in the classrooms while students completed the work. The researcher helped students with questions and clarifications, as well as pronunciation of unknown words, as necessary.

The researcher conducted four scheduled observations on four different days during the independent reading portion of the reading workshop block, and each observation lasted approximately 45 minutes. During that time, students were located around the classroom reading silently, while the classroom teacher worked either with individuals or small groups. The researcher sought to determine seating preference by gender, whether there was student autonomy of preference of text and seating location, and the structure of routines and flexibility of the environment.

Data Analysis Procedures

The researcher transcribed each teacher interview and coded responses. Teacher interviews helped the researcher find similar and dissimilar information, along with common trends in teaching practices, perceptions, and measures used to improve student attitudes about reading. Observation notes were coded and analyzed to determine similar and dissimilar relationships between participant perceptions and third-party observations. Coding of both the teacher interviews and the observation notes helped the researcher label commonalities among responses between the educators. The codes were applied consistently so that the researcher was better able to find patterns and outliers to determine the relationship between flexible learning environments and student attitudes about reading independently (Cohen, Manion, & Morrison, 2011, p. 428).

In order to analyze the quantitative data gleaned from the surveys, survey questions were assigned to each of the study research questions. This allowed for cross examination of all data sources. Because the researcher expected that students would note a marked difference between traditional and flexible learning environments, student survey data were utilized to measure attitudes about reading independently, seating preference when reading independently, and perceptions about the learning environment. Teacher survey data were analyzed to determine the relationship between teacher use of best practices when teaching reading and level of flexibility in the classroom environment in comparison to what was observed during classroom observations.

Ethical Considerations

The school district and school building serving as the research site for this study remained anonymous, as well as the identity of the classroom teachers and student

responses in interviews and on surveys. The online survey data, and audio recordings of teacher interviews will be kept by the researcher for three years in the Google Drive and will only be accessible via a personal password.

Summary

This study utilized student and teacher survey data to determine perceptions about classroom learning environments and student attitudes about independent reading. Of particular interest was student perception about noted differences between traditional classroom environments and flexible environments that incorporated flexible seating options, and whether this noted difference changed student attitudes about longer lengths of time spent reading independently. In addition to survey data, teachers were interviewed to gain a better sense of their understanding of best practice in teaching reading and teacher perception about the learning environments' effects on students' reading attitudes. Classroom observations with students present were the final piece of data collection, and were helpful in observing student autonomy, or lack thereof, in practice.

This elementary school was in its first year with a new administrator, which may have contributed to a possible influence on the behaviors of staff and their willingness to investigate, and undertake, a non-traditional approach to their learning environments. When there was a higher rate of collective teacher efficacy, teachers were more likely to try new approaches (Donohoo, 2017). The cultural shift that began to occur during the 2016-2017 school year as a result of a change in leadership may have led to the higher rate of teacher efficacy, and thus may have affected the zeal with which the fourth-grade teaching team altered their classrooms to reflect a more flexible space.

A potential impact on student responses and behaviors during classroom observations was that the researcher was an administrator in the school where this study took place. Maxwell (2013) called this undue influence "reactivity;" however, he reminded readers that researchers who had a relationship to the participants did not have as much influence on behaviors as one might think (pp. 124-125). The researcher took steps to ensure a quiet entrance into each classroom and to be a relatively unrecognized presence in the classroom during observations. In addition, measures were put in place to keep survey data and teacher interviews anonymous; and, that anonymity was explained to all participants with the understanding that consent could be withdrawn at any point during the study.

Chapter Four: Results

Problem and Purpose Overview

The implications of the effect of classroom environment on the attitudes and behaviors of students was an ongoing topic of inquiry among researchers and educators. Those interested in how the learning environment could affect student success both academically and behaviorally were particularly interested in understanding the relationship between the two. The researcher was an administrator in a public elementary school in the Midwest, and as such, interacted consistently with students who struggled in the areas of behavior and/or academics. These students often acted out behaviorally because of their struggle to maintain stamina and/or focus during independent work periods. During the reading block, students were expected to spend a large amount of time working independently, and often expressed discomfort in reading at a level below their peers.

Due to the informal nature of these ongoing observations and patterns of behavior, the researcher sought to find the potential relationship between the learning environment and the extended blocks of time spent reading independently. Six research questions guided this study:

RQ1. What is the relationship between student attitudes about reading and a flexible learning environment?

RQ2. How do student attitudes about reading change when they have the autonomy to choose from flexible seating options?

RQ3. What is the relationship between teacher experience and classroom environment design?

RQ4. How do students feel their needs are met environmentally within the classroom?

RQ5. In what ways do students notice differences between traditional and flexible learning environments?

RQ6. In what ways do students notice a relationship between learning environments and their attitudes about reading?

Data Analysis

Student participants in four fourth-grade sections completed an anonymous online survey consisting of 16 open-ended questions, ranging from an individual analysis of the characteristics of the classroom, to general feelings about reading, to perceptions of the impact of the environment on attitudes about reading. Fifty-seven of the total 83 fourth-grade students completed the survey on their school-issued iPads in their classrooms, after listening to a prompt by the researcher. Students were given assistance in reading the text, and explanations were given to clarification questions as needed. The researcher remained in the classroom with the students throughout the survey period. Students who did not participate in the survey also remained in the classroom and read silently around the room on their iPads. In all four classrooms, students were allowed to choose to sit anywhere in the learning space to complete the survey.

Teachers participated in both online anonymous surveys and in face-to-face interviews with a neutral research representative. Some of these teacher participants overlapped between the two instruments, while others only participated in one or the other. Nine teachers in grades kindergarten through five (with the exception of first grade) participated in the interviews. First grade was not represented, due to lack of

consent, so an additional third-grade teacher was asked to participate. A third-grade teacher was chosen to shed additional light on the fourth-grade students' previous year's classroom experience. The neutral representative audio-recorded the interviews and de-identified each teacher by assigning an alphabetical letter to each one, and the recordings were transcribed by the researcher. Teachers answered questions about their professional experiences, perceptions about classroom environment, and questions about strategies for improving students' love of reading. Eight teachers participated in the online anonymous survey and answered questions ranging from the number of years assigned in the then-current grade level, how they got to know their students and set up their classrooms, and they structured their reading instructional practices.

Overall Findings

This section of Chapter Four represents a general overview of how students and teachers felt about reading and reading instruction. How the instruments related to individual research questions will be addressed later in this chapter.

Student survey questions one and two asked students for general information about their gender and years in attendance at the school where this study took place. This information was important so as to report the fairly equal representation from both the male and female student population, as well as to indicate the presence of a majority of students who had been in attendance more than one year at this school. Having been in attendance longer than the then-current school year ensured the students had experienced both a traditional and non-traditional, flexible learning environment.

Figures 1 and 2. Traditional learning environment seating in the third-grade classrooms of the school in which the study took place.

Of the 57 fourth-grade students who completed the survey, 56.1% were female students and 43.9% were male students; 75.4% had attended the elementary school since kindergarten, meaning they had experienced traditional style classrooms prior to this school year. Close to 9% of the students were completing their first year in this elementary school.

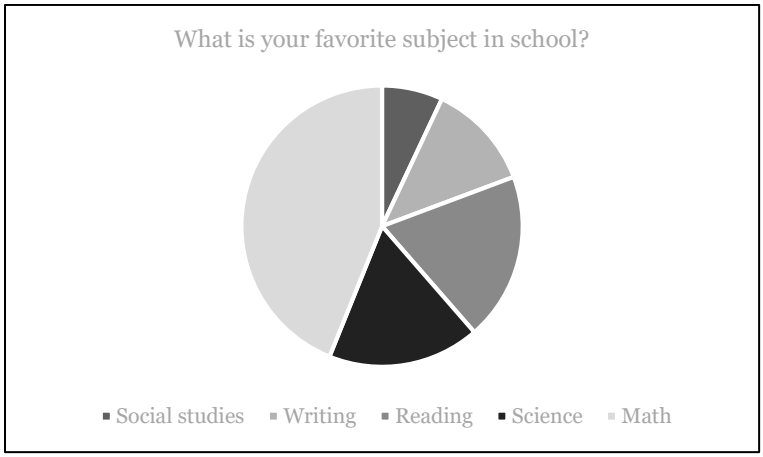


Figure 3. Student survey question 3. Students chose their favorite subject in fourth grade from a list of core school subjects.

To gauge students' feelings about core subjects in fourth grade, and in particular reading, they were asked a series of questions. These questions are discussed out of order

to maintain cohesiveness within the writing; but, all survey questions will be addressed in this full chapter analysis. As indicated in Figure 3, just slightly above 68% of the students indicated that they preferred the math and sciences (including social studies) over 31.6% preferring subjects that fell under the umbrella of English-language arts.

However, when asked on question five (Figure 4) whether they enjoyed reading, 68.4% indicated they enjoyed reading, while nearly 30% of the fourth graders only enjoyed reading 'somewhat.'

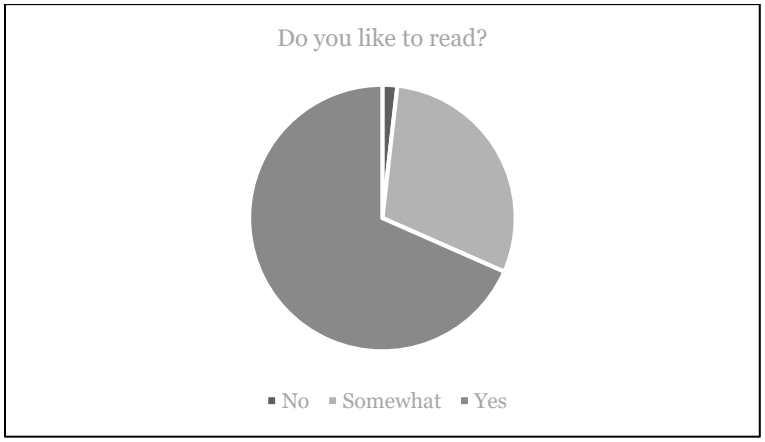


Figure 4. Student survey question 5. Students described their feelings about reading based on three choices.

Question six asked students to report if they preferred to read alone, with a partner, or in a small group. As indicated in Figure 5, nearly 81% preferred to read independently of their peers while close to 16% felt more comfortable reading with a peer, and 3.5% indicated they were more inclined to read within a small group of peers with the assistance of the teacher.

To determine attitudes about reading independently in class, students were asked to rate their feelings on a scale of one to five. They were also given the option to choose 'other' and leave a comment.

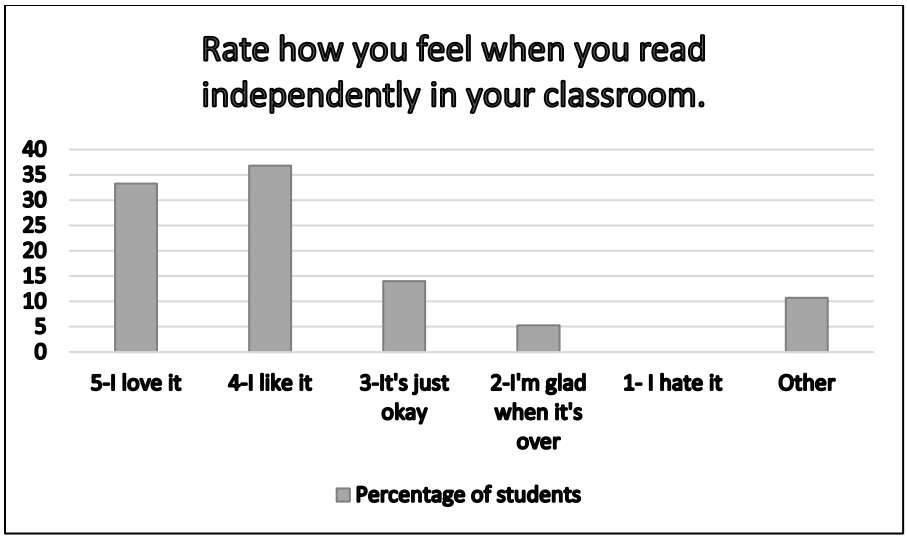


Figure 5. Student survey question 7. Students ranked their feelings about reading on a scale of 1 to 5. Descriptors for each number were provided on the survey.

Seventy percent of the students felt favorably about reading independently in their classrooms, while 19% rated the time unfavorably. Of the comments students wrote in the category of 'other' on question seven, two students indicated that they 'really liked it,' whereas four students named that their feelings depended upon stipulations on the time allowed to read. One student claimed to like reading independently 'most of the time,' and not enjoying it on other occasions but did not indicate a reason. Another student preferred to read when the room was quiet, and one student indicated only liking to read when allowed to sit in a flexible seating option.

Teacher surveys were completed by eight teachers who consented to participating and were comprised of three males and five females in grades two through five. Questions one and two gave an overview of the number of years in the profession and the number of years in the then-current grade level. This information helped to ensure a balanced representation from seasoned educators and those new to the profession, as well as a range of experience in the grade level. Teachers were asked to choose from spans of

years for both of these questions. In response to number of years in the profession, one teacher had been teaching less than five years, four had been teaching between six and ten years, two teachers between 11 and 15 years, and one had taught over 20 years. Of these eight teachers, seven had been in their then-current grade level for five or fewer years, and one between six and ten years.

Because students' feelings about reading would be considered, the researcher wanted to know what strategies teachers felt they used consistently when teaching reading. As a basis of understanding, the choices provided to teachers in question eight were derived from Marzano, Pickering, and Pollock's (2001) list of the nine high yield instructional strategies teachers could use to enhance student achievement.

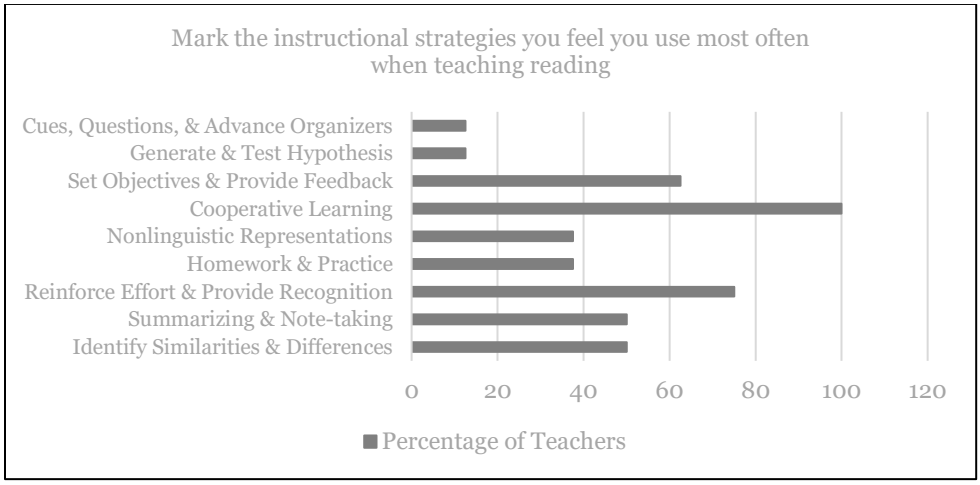


Figure 6. Teacher survey question 8. Teachers chose from a list derived from Marzano et al.'s (2001) nine instructional strategies that yield high results in student achievement.

All eight teacher respondents reported using cooperative learning strategies consistently in their classrooms, which coincided with analysis of teacher interview data that suggested teachers felt small group and partner work was beneficial to student learning. Teachers also acknowledged consistently providing feedback and positive recognition, but lacked consistency in the areas of utilizing advanced cues, questioning,

advanced organizers, and creating and testing hypotheses within their classrooms. While not listed as an instructional strategy, it was worth noting that during interviews teachers cited getting to know their students likes and dislikes about reading as another strategy they used to improve how students felt about reading. While this data did not help to answer the research questions, it did shed light into the instructional strategies teachers felt most comfortable employing during reading instruction and may lend itself to further research when comparing student attitudes to instructional strategies.

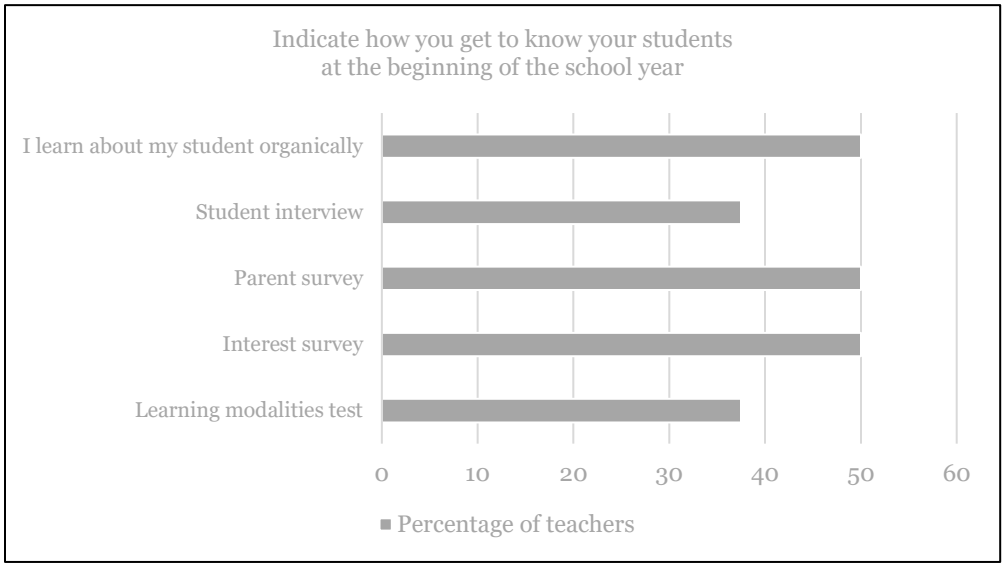


Figure 7. Teacher survey question 6. Teachers chose any number of ways they got to know their students from a list of five options and were given the opportunity to provide their own answers if not on the list.

To gain a general perspective, teacher survey questions five through seven gave insight as to how teachers came to *know* their students and what changes they made to the environment as a result of new learning. On question five, 50% of teacher respondents indicated that their classrooms appeared 'somewhat' finished when students arrived at the beginning of the year, and nearly 38% said it appeared completely finished. Question six

asked teachers how they got to know their students at the beginning of the school year (Figure 7). They were given five options from which to choose and could choose any number of ways they utilized from the list. One teacher who indicated he or she had taught between 21 and 25 years, chose 'other' and wrote in 'personal relationship building.'

The majority of teachers felt interest surveys filled out by both students and parents were equally as helpful as letting relationships grow organically. This led to question seven, which asked if changes in the learning environment were made after learning more about the students who would inhabit the classroom for the school year (Figure 8). Half of teacher respondents indicated they did alter the learning environment in response to learning about their students, while 38% said they changed things 'somewhat.' The teacher who indicated getting to know his or her students through personal relationship building chose 'other' and wrote, 'I change the instruction, not necessarily the structure.'

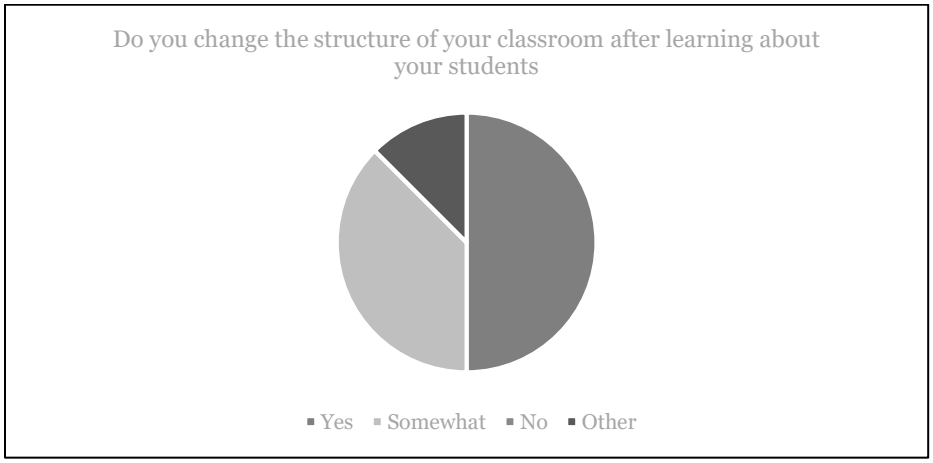


Figure 8. Teacher survey question 7. Teachers reported whether their classroom environment changed as a result of learning more about their students.

Overall, preliminary baseline questioning showed that the fourth-grade students surveyed generally felt good about reading, but did enjoy the autonomy to choose where

to sit and what to read. Teachers felt comfortable using cooperative group strategies and small group instruction with positive reinforcement during reading instruction, but also felt it was important to know students' interests to help bridge the gap between enjoyment and reading. Teachers who were surveyed believed it was important to learn about their students and used surveys to gain perspective quickly, but also liked to let relationships form organically over time.

Research Questions Analysis

After establishing a general understanding about students' perceptions about reading, the researcher wanted to learn more about the relationship between reading attitudes of students and the learning environment.

Findings from research question one. *What is the relationship between student attitudes about reading and a flexible learning environment?* The first question was analyzed to determine if student attitudes about reading during independent reading blocks, commonly known by educators as Independent Daily Reading (IDR), were affected in any way by the learning environment. During IDR, students were tasked to practice the reading skills they had been taught during whole-group minilessons or small-group work with the teacher and four-to-five peers. In addition to practicing these skills, another goal of IDR time was to increase one's stamina for reading. Students read in a process of Silent-Sustained Reading (SSR). SSR was defined as "a block of time each day – usually anywhere from ten to thirty minutes, depending on the grade level and the ability of the students – for quiet reading" (Hopkins, 2007, para. 1). For students who struggled to read, whether in terms of fluency, accuracy, or comprehension, this long

period of independent time could be daunting, thus often times leading to off-task behaviors.

Teacher survey question number 9*: On average, how much time do you provide for your student to read independently each day?* The researcher felt it important to understand how much time students spent in independent practice each day, or SSR. Because teacher survey participants taught a range of grade levels, it was expected that the spans of time would also vary. Teacher respondents were given 10-minute increments to choose from, and the results concluded that the majority of teachers provided between 20 and 40 minutes, while 25% of teachers gave students between 40 and 60 minutes, and nearly 13% gave students between 10 and 20 minutes each day (Figure 9).

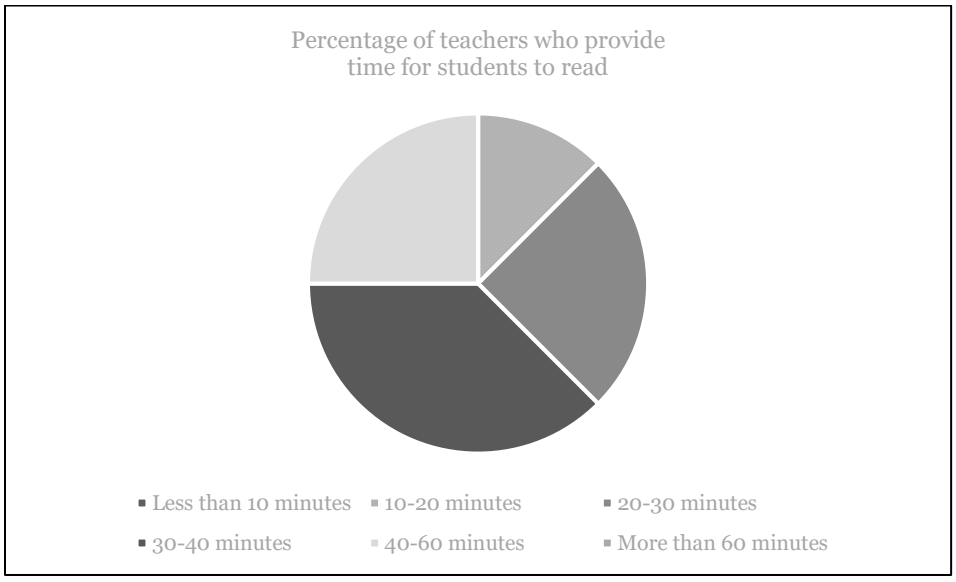


Figure 9. Teacher survey question 9. Teachers indicated the amount of time they provide for their students to read on average each day.

While there was no definitive proof from the survey data, the range in time allotted for independent reading could likely be attributed to the varying grade levels

taught by participants. Teachers who taught in the primary grades generally provided a shorter amount of time for independent practice than those in the intermediate grades, because primary students were in the process of learning reading skills and developing stamina for reading independently of their teacher.

It was important for the researcher to understand if students felt more comfortable about these independent reading blocks when given an opportunity to choose which space and seat in the classroom would help them to be most successful. To be considered a flexible learning environment for this study, classrooms needed to support learners through opportunities for choice, collaboration, communication, and active engagement (Edutopia, 2015b, para. 1). These classrooms allowed consideration for the needs of all learners by engaging the senses, providing three or more flexible seating options, and allowed for student autonomy when choosing text to read independently, as well as where in the room the students would be most successful.

Student survey question 4*: Which words best describe your classroom environment? Mark all that apply.* As indicated previously, the fourth grade teaching team embraced the idea of flexible seating for much of the 2016-2017 school year. As such, it was not surprising to find that 77% of students indicated the presence of flexible seating options in their classrooms.

Breaking seating information into themes in Figures 10 and 11, the findings became clearer. Looking at seating as the first theme, and dividing it between flexible versus traditional models, students indicated that their classrooms had a higher amount of flexibility than that of the traditional elements.

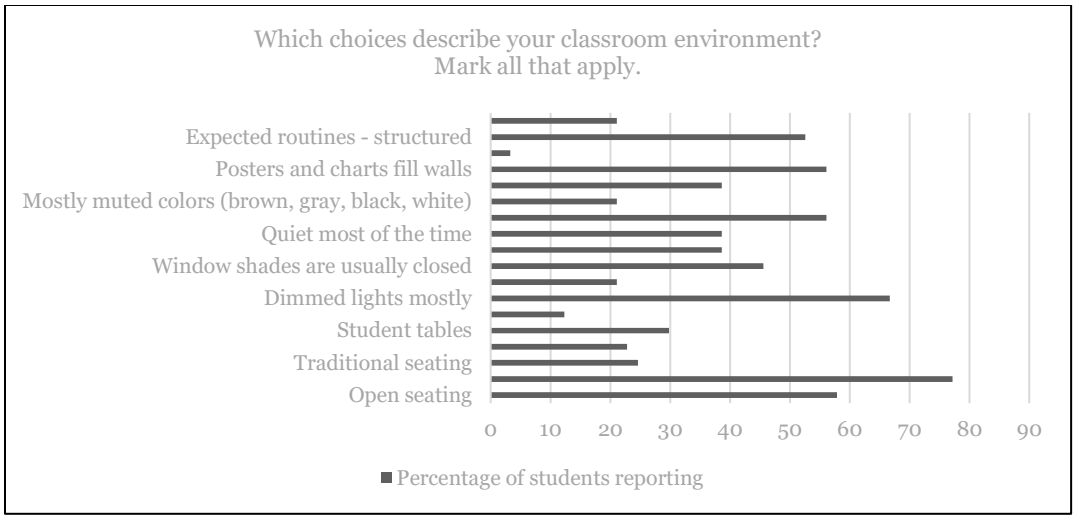


Figure 10. Student survey question 4. Students were given 18 classroom environment options and were asked to choose all that applied.

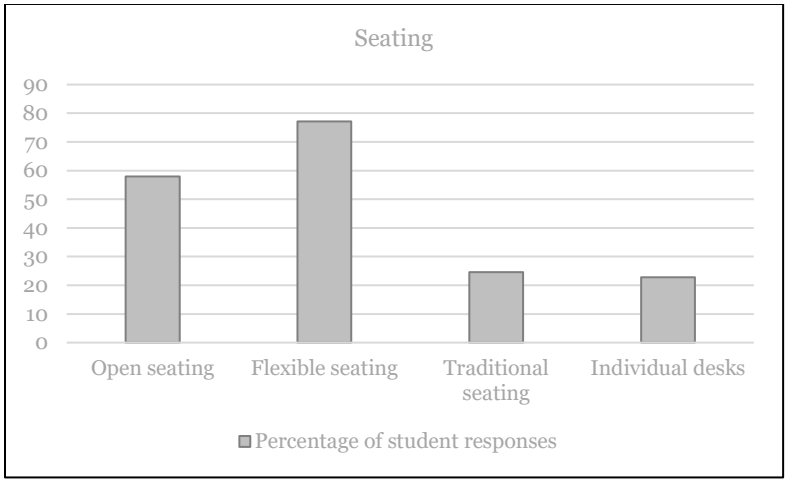


Figure 11. Student survey question 4. Students reported on the environmental elements they observed in their classrooms.

When considering the theme of lighting, the fourth-grade students reported their environments being primarily lit with low lighting and shades drawn. To understand the relationship between these classroom environments and student attitudes about reading, it was necessary to ascertain what type of environments students reported were influential to their learning.

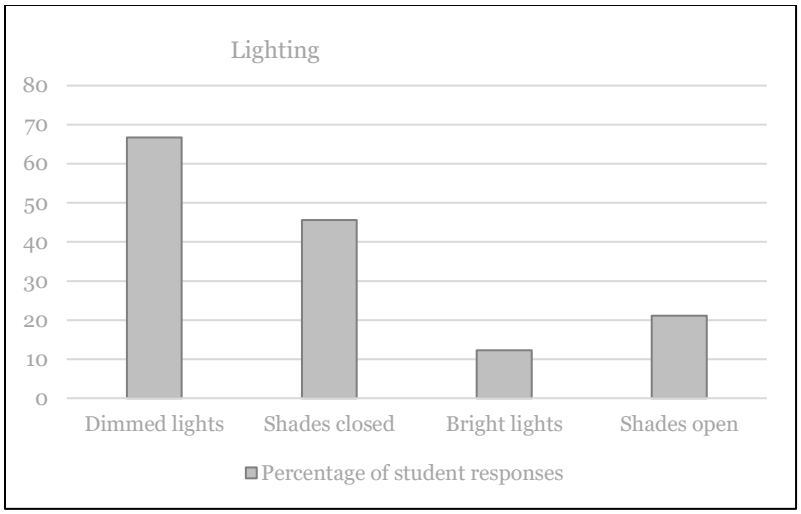


Figure 12. Student survey question 4. Students reported on the environmental elements they observed in their classrooms.

Student survey question 12*: Which option improves your feelings the MOST about reading independently?* When given the options of lighting, sound, choice of seating, autonomy to choose text, and teacher proximity, 45.6% of students reported that being able to choose where to read in the classroom was most beneficial, and 36.8% reported the freedom to choose what they read was most beneficial. In summary, just over 82% of the fourth grade participants revealed choice as being the most influential piece to improve feelings about reading independently.

Several students communicated that choice allowed them to be more comfortable, and being comfortable allowed them to stay focused on what they were reading. One student stated, 'When I am told to sit somewhere, I can't focus on my reading as much as I could if I had the chance to choose where I sat.' In contrast, of the 57 student participants, 12% reported that light and sound in the classroom improved their attitudes about reading independently. One student respondent wrote, 'Without the music and dimmed lights it's hard to see and focus.'

Because students reported choice as influential to their feelings about reading, the researcher analyzed student and teacher survey data regarding student choice, to determine if teachers were providing students opportunities for choice.

Teacher survey question 10*: Do you allow your students to choose where they read in your classroom during independent reading? (silent-sustained reading)*

Of the eight participants, 87.5% noted giving students the choice, while 12.5% noted they sometimes allowed students to choose where to read in the classroom. Third quarter was the time of year when rules and routines had typically been established, and data were collected during the third quarter of the 2016-2017 school year. This may or may not have accounted for the higher percentage in opportunities for choice of seating while reading.

Student survey question 8*: How often are you allowed to choose what you want to read during independent reading time in class?* Student respondents were given a four-point scale that ranged from 'never' to 'always.'

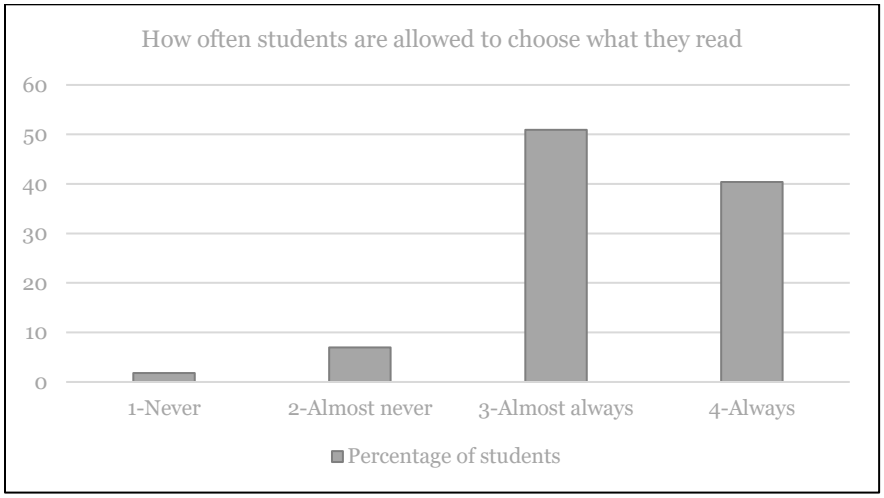


Figure 13. Student survey question 8. Students indicated how often they were given complete autonomy to choose what they read during independent reading periods.

Just over 50% of students marked that they were allowed to choose their text most of the time, and with under 10% reporting a lack of choice, the majority of the students confirmed that they were provided opportunities for autonomy to choose what they read.

Teacher survey question 12: *How often would you say your students have complete autonomy to choose the text they read when independently reading? (silent-sustained reading)*

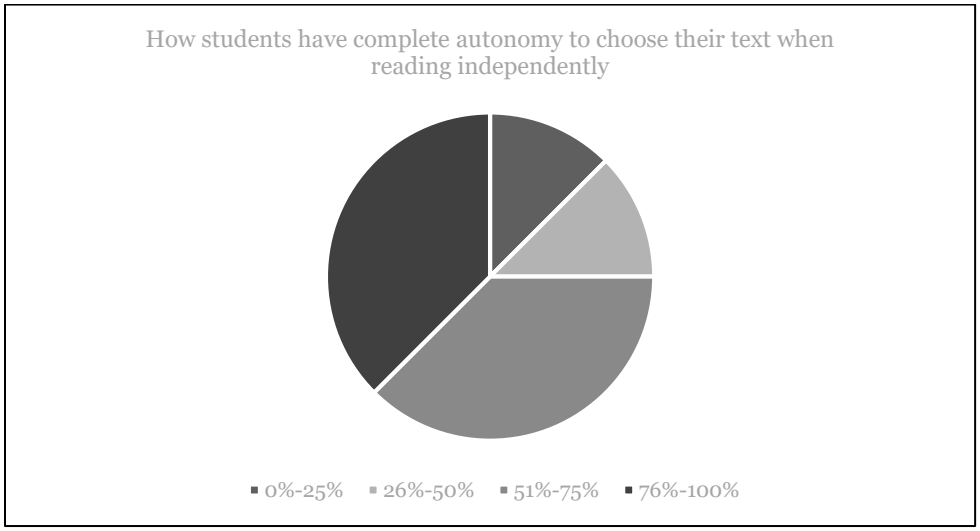


Figure 14. Teacher survey question 12. Teachers ranked how often students were allowed to choose what they would read during independent silent reading periods.

Teacher survey participants were given four choices for percentages of times they allowed student autonomy when choosing text. In Figure 14, 25% of teachers reported allowing choice less than 50% of the time, while 75% described giving students complete autonomy more than 50% of the time. It was important to consider that teacher participants ranged from grades kindergarten through five, and that could account for these findings as students who were older may be more capable of making appropriate book choices than those who were younger.

Teacher interviews elicited similar information to what students and teachers had reported on surveys. Teachers indicated that the ideal learning environment incorporated comfort and movement along with flexible seating options. Teacher H spoke about choice and how it could vary, so students had to be prepared to adjust. She said, "I think that the biggest thing [to improve student attitudes about reading] is choice and being responsible, because sometimes there isn't choice and that's the real world, and if there is a choice that's awesome, but there isn't always and so how do you make it work for you."

Observations by the researcher revealed that in all four observations, students were allowed to choose where they sat and what they read at some point during the independent reading period. In three of the four classrooms, students were required to complete independent work before reading, but were allowed to complete that work anywhere they chose in the classroom.

Overall findings for RQ1 indicated there was a relationship between the learning environment and student attitudes about reading. Most students felt that when given choice in where to sit and what to read, they were more likely to enjoy the time spent reading. Teacher survey questions six and seven, coupled with teacher interview conversations, concluded that teachers felt it was important to build relationships with students to discern their interests, and the majority of teachers surveyed then altered the learning environment to meet the needs of the students. In taking the time to build relationships, teachers gained understanding about student needs and made adjustments to accommodate those needs. Because flexible seating options were provided and students were given opportunities to exercise choice in seating, as well as what they read

the majority of the time, it could be concluded that there was a relationship between the environment and attitudes about reading.

Findings from research question two. *How do student attitudes about reading change when they have the autonomy to choose from flexible seating options?* Question two was analyzed to determine the influence of preferred seating on attitudes about independent reading. Because 82% of students reported "choice" as being the most influential aspect of improved feelings about reading independently, the researcher sought first to establish how often students were given seating choice while reading and what seating options were available to students during reading blocks.

Student survey question 10*: Look around your classroom. What seating options are available to you when you read independently in class? List as many as you can see.* Student surveys revealed several choices of seating offered for students during reading blocks. Students listed tables, stools, and chairs of varying heights, rugs, carpets, and mats, standing options, cushions, chairs that wobbled, leaned, and bounced, and traditional style seating. Many students also reported nooks and crannies within the classroom that they could squeeze between, and places they could sit under as options while reading.

Teacher surveys elicited similar responses on question 11 wherein teachers accounted for varied seating and table heights for sitting and standing, yoga ball seats, carpeted areas and mats for sitting or lying on the floor, and traditional and camping style chairs available to students when they read independently.

Observations of fourth-grade classrooms were congruent with survey reports. Several seating options were made available to all students during independent reading

periods observed. The researcher noted varied table, stool, and chair heights, carpeted areas, unique seating such as beach and bungee chairs, yoga balls, wobble stools, crate benches, and standing options, as well as students utilizing spaces between and under furniture while reading.

Student survey question 13*: How much do you think the learning environment and seating options improve your feelings about reading independently?* To answer the research question, students were asked to consider how much the learning environment affected their feelings about reading; students utilized a 5-point scale: 0 meant 'not at all' and 5 meant 'a lot.' Nearly 74% of students characterized the learning environment as having a large effect on their feelings about reading, while 15.8% marked choice number 3 and 10.5% marked choice number 2. Students were then asked to justify their answers in a comments section.

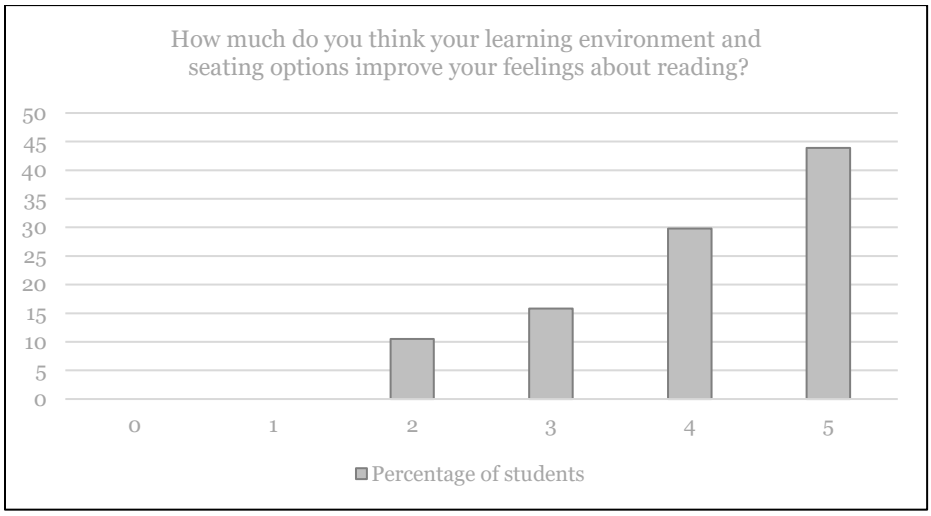


Figure 15. Student survey question 13. Students rated how much they felt the learning environment improved their feelings about reading independently on a scale of 0 (not at all) to 5 (a lot).

Analyzing the comments revealed that 20 students enjoyed flexible seating options because they were more comfortable than traditional seating. One student recalled, 'I am more comfortable than sitting at my desk for 30 minutes,' while another student wrote, 'If I sit at a desk I feel antsy. When I lay down or sit up high I feel relaxed and I like to feel this way when I'm reading.' Eleven students reported preferring flexible seating because it allowed them to stay more focused and concentrate. One student stated that flexible seating allowed him to get in the position he wanted, and being able to choose his spot helped him concentrate, while another wrote, 'I can be comfortable, and being comfortable helps me focus.'

Analysis of teacher interview data from nine classroom teachers representing a range of grade levels from kindergarten through five and a wide array of experience ranging from a second-year teacher to a 16-year veteran, revealed similar information. When asked to describe the ideal learning environment, three of the nine teachers mentioned the need to provide a calm and comfortable learning environment, five teachers touched on the need for movement within the classroom throughout the day, five revealed that students needed to have choice opportunities both in where they learned, but also in what they learned, and all nine interviewees detailed varying degrees of and options for flexible seating within the learning space.

In her interview, Teacher B acknowledged encouraging students to choose where they learn best, and Teacher G said, "With flexible seating that's probably the biggest time that they love [reading]. They can spread out, they can get cozy and enjoy their reading time." Teacher I made a connection between how flexible seating had not only improved student focus, but also her connection to her students. "They are more focused

than they've really ever been when working independently; they are *working* [teacher put emphasis on the word 'working']. Never have I felt like I knew more about what the kids were doing and learning like I have this year."

The overall findings of RQ2 indicated that students felt their feelings about reading improved when they had the autonomy to choose where to sit and what to read during independent reading blocks. Teachers, students, and the researcher, through observations, identified similar flexible seating options in each of the fourth-grade classrooms and students employing choice when reading.

Findings from research question three. *What is the relationship between teacher experience and classroom environment design?* Question three was analyzed to determine if, and how teacher experience affected classroom design. The researcher sought to gain better understanding about whether such experiences inhibited or substantiated flexibly designed classrooms. In order to determine if there was a relationship, the researcher compared teachers' years of experience with their philosophies about the learning environment.

Of the eight teachers surveyed, questions one and two revealed that one teacher had taught for less than five years, four had been teaching between six and 10 years, two had been teaching between 11and 15 years, and one had been teaching longer than 15 years. A second consideration that could have proved a relationship between flexible classroom design and teacher experience was time spent teaching in a grade level. Eighty-eight percent of the teachers had been in their then-current grade levels for no more than five years. Because it takes time to become familiar and comfortable with a grade level curriculum, teachers newer to a grade level spend countless hours learning,

analyzing, and planning lessons, often times at the expense of focusing on the climate and culture of their classroom. In a study in which 75 graduate-level educators, with experience ranging from two to 20 years, were asked why teachers resisted innovation and change, the most common response was skepticism. The longer a teacher had been in the field, the more resistant to change they were (Richards, 2002).

To begin, the researcher analyzed teacher survey question three and compared the teacher who had been teaching for 21 to 25 years with the teacher who had taught for less than five years. Each teacher had been in his or her then-current grade level for less than six years. The non-tenured teacher reported a structured teaching style with a classroom environment that had a mixture of flexible and traditional elements. On teacher survey question five, this teacher's classroom design was acknowledged as appearing 'somewhat complete' prior to the start of the school year until getting to know his or her students through parent and student surveys, then changing the environment to meet the needs of the learners. On teacher survey question three, the veteran teacher described his or her teaching style as 'ever-changing' with a classroom environment that incorporated flexible and open seating elements. On survey question five, this teacher described his or her classroom as appearing fully 'complete' until surveying children and parents to get to know the students better, coupled with building personal relationships with students, but wrote, 'I change the instruction, not necessarily the structure.'

Next, the researcher analyzed the six teachers who had taught between six and 15 years. The two tenured teachers who had taught between 11 and 15 years responded similarly. On survey questions four, six, and seven, both teachers considered their environments as 'flexible' spaces, both got to know their students 'organically,' and both

changed the environments after learning more about their students; however, on questions three and four, they differed in their teaching style and their classroom environment prior to the start of the school year. One teacher marked that his or her style changed but had a complete looking classroom at the start of the school year, while the other considered him or herself as flexible but indicated that the classroom did not appear complete when students arrived at the beginning of the year.

There were several differences and no particular patterns noticed among the teachers who had taught between six and 10 years.

Table 3

Classroom Structure and Environment Reported by Teachers Having Taught Between 6 and 10 Years

Survey Questions	Teacher 1	Teacher 2	Teacher 3	Teacher 4
Q.3: Teaching style	Ever changing	Flexible	Structured	Structured
Q.4: Classroom environment	Flexible	Mixture of flexible & open seating	Flexible	Mixture of flexible & traditional
Q.5: Appearance "complete" prior to students arriving	Somewhat	Somewhat	Somewhat	Yes
Q.6: Getting to know your students	Surveys & organically	Surveys	Surveys	Organically
Q.7: Change environment to meet the needs of the learners	Somewhat	Somewhat	Somewhat	Yes

Note. Question numbers are indicated with "Q." followed by the number.

On teacher survey question two, one teacher marked that he or she had been in the then-current grade level between six and 10 years, and on questions three through seven marked having an 'ever-changing' teaching style and a flexible learning environment that appeared 'somewhat complete' prior to the school year until 'surveying' students and

forming relationships ‘organically,’ then changing the environment ‘somewhat’ to meet the needs of the learners (Table 3). The remaining three teachers were split in their responses.

Of the nine teachers interviewed, there was a variety in years and types of experience that could factor into perceptions and elements of classroom design. For the purpose of the teacher interview analysis, the teachers were split in to two categories: those who had taught 10 years or less, and those who had taught more than 10 years. When identifying teaching style, themes were noticed among the teachers who had taught for 10 or fewer years (Table 4).

These teachers spoke of the importance of relationships with students, having a flexible but somewhat structured style that allowed students freedom with parameters, incorporating opportunities for collaboration and exploration, and being student-centered.

Patterns also arose from the interviews with those that had taught for more than 10 years. Each of these teachers spoke of a particular element of their teaching style that he or she had honed-in on within the structure of the environment. For example, one teacher discussed using mindfulness throughout the day with his students as well as using techniques that were beneficial for the brain. He said, ‘I do some of those traditional things that people think are archaic, but they actually have brain benefits,’ such as cursive writing every morning. Another teacher spoke of her interest in focusing on students’ social-emotional well-being and the importance of their struggles, saying, ‘It takes a while for them to become comfortable with the lack of comfort.’ Meaning, students were only given pieces of the problem-solving puzzle rather than being walked through the steps to completion.

Table 4

Teacher Interview Question One Responses Regarding Professional Career Experiences

	Years in education	Grade levels taught	Current grade level	Prior education experiences	Level of education
Teacher A	9	K, 1, 2, 3	3		MA-ELL
Teacher B	2	4 ONLY	4		Pursuing MA-Reading Specialist
Teacher C	11	3, 6, 4, 5	5	Urban teaching experiences in IL, DC, CA, MO; 1 year as Instructional Specialist in urban school	MA-Instructional Technology
Teacher D	16	K, 1, 2, 3, 4, 5, 6	2	1 year as a teaching assistant in MO, CA, KS; Private school teacher in Syria	MA-Elementary education; Pursuing MA-Character Ed.
Teacher E	8	3, 4, 5	4		
Teacher F	11	1, 4	4	2 years as a Reading Specialist	MA- Reading Specialist
Teacher G	9	K, 2, 3	3	Rural teaching experience in MO	BA
Teacher H	11	K, 1	K		BA
Teacher I	13	K, 2, 4, 6	4	8 years working for a non-profit educational organization	BA

Teacher interview question number 4*: Using your senses, describe the ideal learning environment for students.* In response to interview question four, all of the teachers interviewed, regardless of the number of years as an educator, discussed having a flexible environment with some structure in place that included flexible seating and allowing for movement and choice within the space, and spoke of accommodating the needs of the learner. Teacher D commented that teachers need to "create an oasis of sanity in your [sic] classroom," and that was what she had been trying to create in her room.

Among the staff surveyed and interviewed at this public elementary school, all had flexible seating and environmental design elements, so this was not dependent upon years of experience. Of the teachers interviewed, there was no noticeable distinction between veteran educators serving over 10 years and those non-veteran teachers who had not, when addressing teaching style and its impact on the environment. Instead of attributing teaching style and environmental philosophy to number of years in the profession, it seemed more apt to be connected to professional experiences prior to time in their then-current setting. Teachers who had few experiences outside of the demographics of this school setting systemically reported being more flexible in their thinking, having a more student-centered approach to classroom design and instruction, and providing opportunities for movement, while teachers who had experiences in urban settings outside of this elementary school environment, spoke about having high expectations, the importance of routines and procedures, and collaboration among students.

During her interview, Teacher B, a second-year teacher, said, “I think it’s important to know when to kind of take the reins and when to let go,” and added that “having choice makes it more motivating”. Teacher E, in his eighth year of teaching and having been in a rural setting prior to his then-current setting, spoke about being flexible and giving kids incentives to help motivate them. He wanted his students to know that he cared for them as a person and not just their academics saying, “I always think about my own time in elementary school. What do I remember the most?” In contrast, Teacher F had previous experience in an urban setting and said, “At the end of it all [the student’s] opinion matters a lot, but the decision still falls down to me, and so I’m not going to always give [them] what [they] like I’m going to give [them] what [they] need.” An additional teacher with urban experience, Teacher C, described his teaching style as being a balance between fun and having high expectations, that he held kids accountable for their actions, and that there needed to be routines, procedures, and organization in the classroom.

Overall, data concluded that in the school where this study took place, there was a relationship between teacher experience and classroom design. This relationship was not definitively based on years of experience, but rather types of school settings in which these teachers had previously taught. Urban schools had historically been much more structured in nature than those in suburban or rural communities, so that may have accounted for the philosophies of the teachers in this study.

Findings from research question four. *How do students feel their needs are met environmentally within the classroom?* Question four was analyzed to determine student perceptions about their learning environments. Student survey questions four, nine, and

14 asked the fourth grade student participants to describe their then-current learning environments, determine differences between that environment and the previous year's classroom environment, and then decide which environment he or she preferred.

Data from survey question nine indicated that nearly 74% of the students believed their then-current learning space was different, and 25% felt it was 'somewhat' different than their third-grade classroom environment. The students who answered 'yes' or 'somewhat' were then asked to describe the noticeable differences. One student wrote, 'Last year we had assigned seats at tables and sometimes we could work on the carpet. This year we can sit wherever we want and [the teacher] turns on music.' Many students remarked on the increased amount of flexible seating, dimmed lighting and aromatherapy in their classrooms, as well as an increase in student choice of learning space.

Note. Parent permission was granted to print these photographs.

Figures 16 and 17. Students make use of flexible seating and choice while reading independently.

Two students reported experiencing less flexibility and choice in their environment than in the previous school year. One of these students was in her first year at the elementary school where the study took place and wrote, 'At my old school we had

different options to sit in. This [year] we have that, but we sometimes do not get to sit where we want to like flexible seating is supposed to be like.'

Observations by the researcher corroborated the students' noted differences between the third and fourth-grade classroom environments. Third-grade classrooms by and large, had more individual student desks and fewer tables, all had traditional plastic student chairs with a carpeted area and a bench or two as other seating options, and no use of music or aromatherapy. Observations also indicated that all four of the fourth-grade teachers participated in a Harry Potter décor theme, but seating, lighting, and room arrangement elements did not indicate a relationship between the theme and environment.

Note. Parent permission was granted to print these photographs.

Figures 18 and 19. Students utilize both flexible and traditional seating while reading independently and working in a small group with the teacher.

When asked to describe the seating options within their classrooms on survey question 10, students gave similar responses as their peers by listing elements such as traditional desks and chairs, stools, carpeted areas and posters, as well as several non-traditional elements such as dimmed lighting, beach chairs, tables and seating of varied heights, music in the background, and oil diffusers that provided aromatherapy. Observations within each of the fourth-grade classrooms revealed the same elements, and

as students read, the researcher noted children perched on stools, sitting on counters, wedged between shelving, and students laying in various spots around the classrooms.

Overall, analysis of student responses and researcher observations indicated that student needs were met through a mixture of traditional and flexible seating options. Student choice allowed learners to find what was appropriate for his or her individual needs and learning style, and then utilize it to maximize the learning opportunity. One student wrote, 'I like being able to have options of where I sit when I work because it helps me focus.' While another student wrote, 'I am usually tapping my feet, a pencil, [and] bouncing up and down and so I like to get an option to sort of wiggle around and have free space to work.' Finally, question 14 asked students to mark whether they preferred to learn in a traditional style learning environment with individual desks and chairs or in a flexible space with open and alternate seating options.

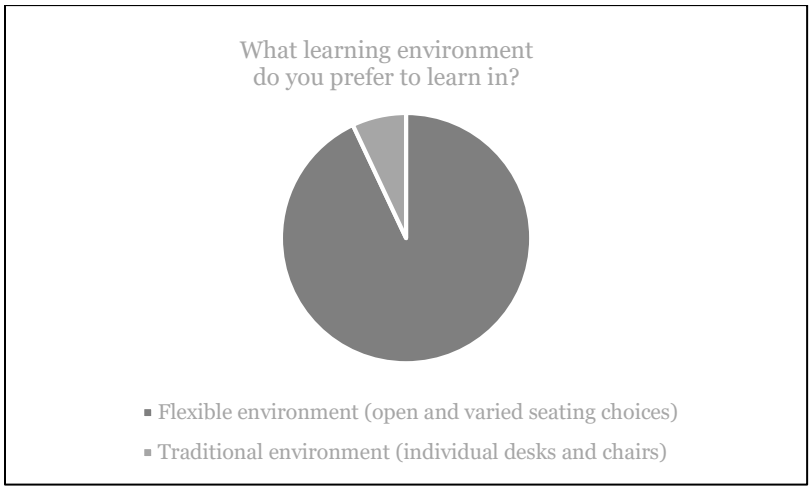


Figure 20. Student survey question 14. Students indicated their preferred learning environment.

Overwhelmingly, 93% of students chose flexible environments, indicating students in this study enjoyed alternate seating options as opposed to 7% preferring

individual tables and chairs. Regardless of which style of seating was preferred, both types of seating were present in all four fourth-grade classrooms; and therefore, because teachers and students indicated that choice of seating was most always allowed while reading, student needs were being met.

Findings from research question five. *In what ways do students notice differences between traditional and flexible learning environments?* Through analysis, it became apparent the need to determine if students were able to note differences between a traditional classroom environment and one that would fall under the criteria of 'non-traditional,' or for the purpose of this study, a flexible learning environment. As reported in the findings of research question four, 99% of students indicated a visible difference in their then-current classroom environment and the learning space they experienced in third grade. One child responded 'no' to this question, and upon further analysis, also indicated it was her first year at the school where the study took place. The survey responses did not give any further understanding about her previous classroom experience in another school.

It was determined through observations and student surveys that the then-current fourth graders in this study had experienced a more traditional classroom environment in third grade in comparison to the flexible environment they were experiencing during the 2016-2017 school year. They were asked to describe the noted differences between the two environments, and many described fewer individual desks, a fluidity of movement and choice throughout the day, softer colors and lighting, and a feeling of calm and comfort. One respondent wrote, 'Last year, it was a little uncomfortable sitting at the

same exact spot all the time. This year, now that we have more options, I feel more relaxed about reading.'

Three students wrote about the room feeling larger than the room they had inhabited during third grade. Researcher observations and analysis of building plans confirmed that these rooms were the same dimensions; however, the teacher in one of the four fourth-grade classrooms had removed all but four traditional student desks and chairs opening up a great deal of space in the room. She had, in their place, included three tall round tables and one short round table in addition to several non-traditional seating options.

Note. Parent permission was granted to print these photographs.

Figures 21 and 22. Student collaboration through the use of flexible seating options. Students used a low top table and beach chairs to work with peers.

Teachers in the remaining three classrooms had a full class set of traditional student desks and chairs along with options of flexible seating such as crates, stools, and low-to-the-ground tables. These rooms did have more furniture and thus were more crowded when children were present.

Overall, survey data, and comments from students, indicated student participants were able to identify differences between traditional and flexible learning environments

because of their learning experiences in both types of environments during their school career.

Note. Parent permission was granted to print this photograph.

Figure 23. A classroom designed with a mixture of flexible and traditional seating within the environment.

Students noted differences in choice and types of seating, as well as other sensory elements such as aromatherapy and music being played while students worked, and the majority of students indicated feeling more favorably about learning in flexible environments than in those that were traditional.

Findings from research question six. *In what ways do students notice a relationship between learning environments and their attitudes about reading?* After determining how students felt about the learning environment, it was important to gauge if students detected a relationship between their attitudes about reading and the space they were in.

Student survey question 11*: When you are at school, what helps you most when you are reading independently?* Students were given a list of five options that included the sound or lighting in the room, choosing where they read in the classroom, teacher proximity, or autonomy to choose the text they read. On this question, students were

allowed to choose more than one of the options, and 86% of students selected ‘choosing where I sit, stand, or lay,’ while 82.5% of students chose ‘choosing what I read.’ Overwhelmingly, students appreciated having choice over other environmental elements in the classroom.

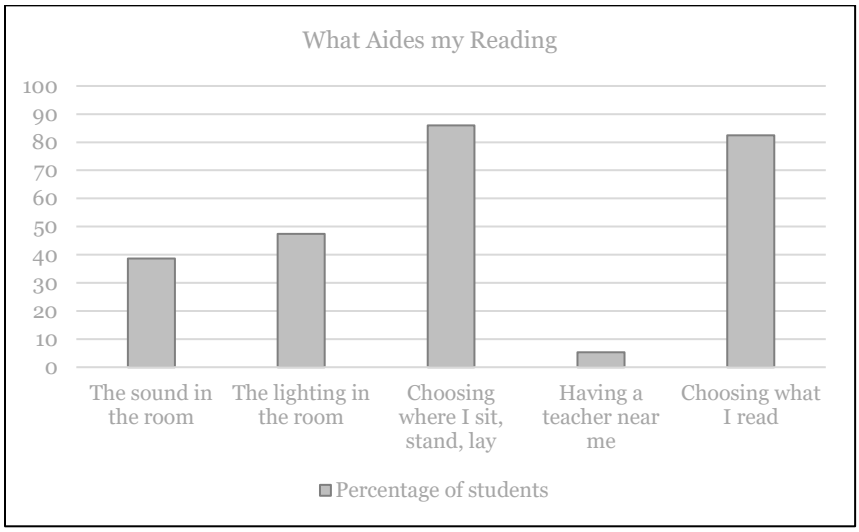


Figure 24. Student survey question 11. Student participants reported what helped them when the read independently.

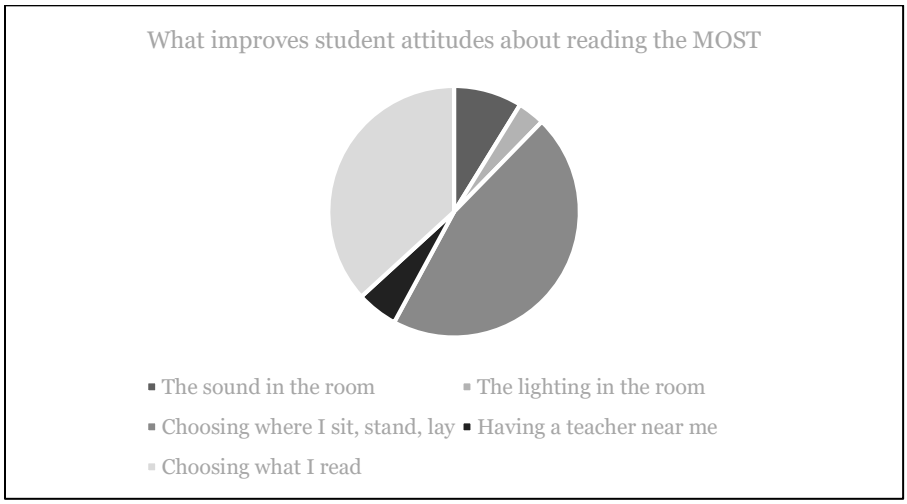


Figure 25. Student survey question 12. Students narrowed down what element improved their attitudes about reading the most.

When asked on question 12 to choose the option that improved their feelings about reading 'the most,' and only allowed to choose one option, 45.6% of students selected 'choosing where I sit, stand, or lay,' and 36.8% of students selected 'choosing what I read.' In addition to these two options, sound was chosen by 8.8%, lighting was chosen by 3.5% and teacher proximity was chosen by 5.3% of students.

Student survey question 13*: How much do you think your learning environment and seating options improve your feelings about reading independently?* Students were asked to determine, on a scale between 0 and 5, the effect the learning environment had on their attitudes about reading. Figure 15 shows that 44% of students felt that the learning environment had a large effect on their attitudes about reading. Students were asked to elaborate on their ranking, and through comment analysis, many students reported being more comfortable in the environment, and therefore, having a better response to the task. One student wrote, 'I think having flexible seating options helps me a lot because I am able to change up my environment and that helps me reconnect with my book.' Students also reported their focus was better as a result of having choice, 'I feel that way because when I'm told to sit somewhere, I can't focus on my reading as much as I could if I had the chance to choose where to sit.'

Teacher interview question 3*: Describe the measures you use to improve how students feel about reading.* The majority of teacher respondents cited learning about student interests, displaying their own excitement for reading, and having conversations about books as the ways in which they fostered a love of reading with their students. Teacher A, a third-grade teacher, commented that by the time students reached her classroom, they already had their minds made up about school and reading or writing.

She said, “I think it’s changing that mindset” when students come in feeling like reading is just too hard. Teacher F argued that relationships were crucial to developing passion for reading. She said, “I’ve learned that relationships are important, so I try to develop as many solid relationships as possible and be interested in the things they are interested in and give them chances to talk and be themselves.” Teacher G spoke of showing excitement when a new book was introduced to her library and teaching kids that if a book does not feel “right,” to put it down and move on. She continued by saying that she wanted her students to know themselves as readers, so she had them set goals for themselves to develop stamina and find successes. Teacher G was the only teacher to mention that independent reading time, coupled with flexible seating was, “probably the biggest time that they love it. They can spread out, they can get cozy and enjoy their reading time.”

Overall, students did notice a change in their feelings about reading as a result of choice. Students cited choice in seating and what they read as the biggest influences on changing their attitudes about reading. It was also determined that lighting, teacher proximity, and sound in the room factored much less in to changing student attitudes.

Teachers felt that establishing a culture of excitement about reading, allowing students to have conversations about books, and teaching them to understand themselves as readers were ways they could help improve students’ feelings about reading. In the interviews, only one teacher cited students needed to feel comfortable while reading.

Summary

According to student and teacher surveys, teacher interviews, and research observations, both students and teachers agreed that flexible seating and learning

environments were important for success in student learning. Students were able to note differences between traditional and non-traditional flexible environments and overwhelmingly preferred the latter. Student choice of space to learn in, and autonomy to choose the text they read, made a notable difference on student attitudes, yet teachers chose text for readers about 25% of the time.

Years of experience in the profession did not have an impact on providing flexible learning spaces for students in this elementary school, but previous professional experiences in urban settings seemed to determine how teachers structured and designed their learning space. While teachers with urban experiences deemed it more beneficial to focus on rules and procedures and having some flexibility with parameters, and collaboration, those with experience in rural settings or no prior experiences outside of the school where the study took place designed their environment to reflect more autonomy and flexibility.

Chapter Five: Discussion, Recommendations, and Reflection

The effort to meet the needs of all learners is an ever-evolving practice among educators as they receive students with varied academic and behavioral needs each year. Finding the best fit for each group of students may appear different annually, and change is always certain. Just as children are inherently different than they were 50 years ago, so too should be their educational experience. Our education system must evolve to meet the needs of all students by embracing individual strengths and differences among children. Zhao (2009) wrote that we must expand our definition of success and personalize education (p. 182). If we do not begin to view schools as a window to the future, we are doing children a disservice.

With the multitude of diagnoses on the books among learners at the time of this writing, educators must find exceptional ways to not only plan for academics, but also to free children from obstacles that might deter maximum learning. Creating flexible learning spaces and allowing students the opportunity to exercise choice are ways in which children could be freed of such roadblocks to their learning. Administrators must begin to look at the cookie cutter structure of their buildings and, with a designer's approach, begin to think outside of the walls, maybe even literally removing the walls that inhibit flexibility (Horn & Staker, 2015, p. 78). It is then, that flexible learning spaces can thrive.

Meeting the needs of all learners was a daunting task but, "A classroom that has a space for students who need quiet as well as for those who need interaction is a more positive place for more students than one that provides for only one of those needs", and

those teachers who provided opportunities for student autonomy increased the bar even more (Tomlinson, 2003, p. 41).

Chapter Five serves as an opportunity to reflect on the findings of this study and determine if there was a relationship between flexible learning spaces and student attitudes about reading independently. Six questions guided this study:

RQ1. What is the relationship between student attitudes about reading and a flexible learning environment?

RQ2. How do student attitudes about reading change when they have the autonomy to choose from flexible seating options?

RQ3. What is the relationship between teacher experience and classroom environment design?

RQ4. How do students feel their needs are met environmentally within the classroom?

RQ5. In what ways do students notice differences between traditional and flexible learning environments?

RQ6. In what ways do students notice a relationship between learning environments and their attitudes about reading?

The participants of this study attended and worked in a Midwest elementary public school in St. Louis County, Missouri, that educated 485 students of all abilities in grades kindergarten through five. The sample populations of participants within this elementary school were 57 fourth graders and eight teachers who completed an anonymous online survey respective to their roles in the school, and nine teachers who

were interviewed by a neutral representative for the researcher. The results of the study follow.

Analysis of Findings

Results from research question one: *What is the relationship between student attitudes about reading and a flexible learning environment?* Analysis of student survey data suggested that there was a relationship between the flexible learning environment and student attitudes about reading during blocks of IDR time. Seventy-four percent of students acknowledged an improved attitude about the task of independent reading due to the environment, and 82% identified 'choice,' which was an element of flexible learning spaces, as also improving their feelings about reading. Students who were allowed to choose where to read and felt comfortable in the space, along with those that were allowed to choose what they read cited improved attitudes about reading independently.

Teachers recognized the importance of providing flexible seating options within their classrooms, noting that students were more comfortable in the space and therefore more focused on their learning. Online surveys completed by teachers revealed an attempt to provide a flexible learning environment that allowed for choice of seating most or all of the time when reading independently, and 75% of the teachers allowed students the autonomy to choose the text they would read. Teacher interviews revealed that choice, with some necessary structures in place, was valued within the majority of classrooms. The autonomy to choose text varied between 0 to 100% of the time, likely due to the age range of students. Meaning, primary teachers may have chosen text for students more often than intermediate teachers; however, survey data did not reveal level of teaching to make a final determination on this factor.

Observations by the researcher offered evidence that students seemed comfortable while reading as a result of flexible seating options. Students appeared to be focused on the task and were observed in various states of sitting, laying, or standing while they read. Observations also mirrored both student and teacher survey accounts of criteria for the flexible environment. After thorough analysis of this data it could be concluded that the relationship between flexible learning environments that included various seating options and allowed for student autonomy and student attitudes about reading relied upon being comfortable and having choice.

Results from research question two: *How do student attitudes about reading change when they have the autonomy to choose from flexible seating options?* Analysis of student survey data showed an improvement in student attitudes about independent reading when given the opportunity to choose from flexible seating options. Over half of student participants listed that improvement was significant on a given scale of 0 through 5, while 19% did not feel the environment made a considerable impact on how they felt about reading. Students provided explanations to support their rankings and the majority acknowledged that when they felt comfortable in their learning space they could focus on the task, and thus could concentrate on what they were reading and connect more with the book. Eighty-two percent of student participants reported that having the choice of where they would read, or the autonomy to choose what they would read, had the most influence on improving their feelings about reading independently.

Teachers' accounts through surveys and interviews revealed teachers felt student attitudes were improved through relationship building, exhibiting personal excitement about reading, and making text relevant to readers through conversations. The majority

of teachers disclosed that they allowed for autonomy of text over 50% of the time, and they allowed students to choose from a variety of flexible seating options at all times during independent reading blocks, but they did not explicitly equate improvement in attitudes about reading to these choices during interviews or on surveys.

Observations of students in various states of sitting or standing did certify that students appeared comfortable in their positions while reading, based on body language and focus to task. It could be concluded that students' attitudes improved when they were allowed to choose from flexible seating options; however, this change in attitude was not the sole reason for such improvement. Students must also have the opportunity to choose what they read. Because student participants cited choice in both seating and reading, the improvement in attitudes could be narrowed down to exercising choice and not only having flexible seating options present.

Results from research question three: *What is the relationship between teacher experience and classroom environment design?* Question three was analyzed to determine if veteran teachers who had taught longer were more resistant to providing non-traditional learning environments. Student survey data from the 57 participants verified that the fourth-grade teaching team provided ample flexible seating options within their learning environments. This team of four teachers ranged from a 2nd year teacher to a veteran of 13 years. Both students and teachers, on their respective surveys, described various seating options, altered states of lighting, music being played while students worked, and use of aromatherapy as some of the non-traditional elements in their classrooms. Researcher observations of the fourth-grade classrooms paralleled both student and teacher accounts of the flexible learning environments.

Teachers who participated in the surveys had a wide range of professional experiences both in number of years, urban and rural environments, graduate advancement, and holding other professional capacities outside of the classroom but within the education profession. Results from the surveys and interviews revealed that teachers in this elementary school provided options for flexible seating in all classrooms while reading independently, but the outlying elements of a flexible environment that met other sensory needs such as lighting and aromatherapy were provided less frequently than in that of the fourth-grade classrooms.

Analysis of teacher interview data revealed that years of experience was not the determining factor in classroom design, but rather that design appeared to be connected to prior experiences in urban settings. Teachers who had worked in urban school settings provided flexible seating options, but cited the need for more structure and having set procedures in place. Those that had taught in rural settings or had no experience outside of the school district where the study took place, designed environments that included more autonomy and flexibility within the space. It could be concluded that the relationship between teacher experience and classroom design in this school was not connected to years of experience, but rather the types of experiences and school environments teachers had encountered prior to this school setting.

Results from research question four: *How do students feel their needs are met environmentally within the classroom?* Question four was analyzed to ascertain if students felt their sensory needs were met within their learning space. By comparing student survey accounts of the design elements in their classroom learning environments

with the type of environments they preferred to learn in, students confirmed they felt their sensory needs were being met environmentally within their classrooms.

Students were asked to list the types of seating available to them when they read, and all students listed various options that would fall under the category of either traditional or flexible seating. This meant that all four classrooms contained both traditional and flexible seating options. Students were also asked to choose the environment they preferred to learn in, and 93% of students chose a flexible learning environment with tables, desks, and alternate seating options, while 7% preferred to learn in traditional environments that had individual desks and chairs.

Observations and teacher survey accounts of the sensory design elements in classrooms, including various types of seating provided for students, paralleled students' accounts. During observations, the researcher noted that students in all four classrooms appeared comfortable and on task while reading independently and were in varied states of sitting, laying, or standing around the classroom. Each classroom had over three flexible seating options for students to choose from, included traditional style seating, and in each classroom sound and lighting were also considered. Because 93% of students preferred a flexible space and 7% preferred a traditional learning environment and because elements of both were in all four classrooms, it could be concluded that students felt their sensory needs were being met within their learning spaces.

Results from research question five: *In what ways do students notice differences between traditional and flexible learning environments?* Question five was analyzed to establish if students noticed a difference in their then-current classroom environments compared with previous experiences in traditional learning spaces. Student

survey data affirmed that all but two students noticed an increase in flexible seating options and autonomy to choose where they would sit while reading independently. Two students noted a decrease in options and autonomy when compared to their third-grade experience. Because nearly 74% of student participants noted a considerable difference and 24.6% of students noticed some differences, and all students were able to list the differences, it could be stated that students in this study noticed the differences between traditional and flexible environments. When describing the differences, the majority of students mentioned being more comfortable while reading when given the opportunity to choose where to read.

Observations by the researcher in classrooms throughout the building where the study took place confirmed student accounts of the differences in seating options noted between the traditional environments most experienced in third grade and the flexible environments in the fourth-grade classrooms. Because 98% of students cited a difference between their previous year's environment compared to their fourth-grade environment, and students were able to list the differences between the two experiences, it could be concluded that students noticed a larger number of seating options and more opportunities for choice in flexible learning environments than in traditional environments.

Results from research question six: *In what ways do students notice a relationship between learning environments and their attitudes about reading?* Question six was analyzed to ascertain whether students connected their attitudes about reading with the learning environment. Student survey data confirmed that nearly 74% of students felt that the learning environment was a significant determining factor in

improving their feelings about reading independently and 26% felt that the impact was less than significant.

When asked what indicators helped them most when they read, 82% of students cited ‘choice’ as the biggest influence on their feelings about reading and not the environment itself. Nearly 46% of students felt choice in seating and 36.8% felt choice in what they read had the biggest impact on their feelings. The sound and lighting in the room and teacher proximity rounded out the remaining 17.6%. Students accounted for being comfortable and being able to focus more on reading when they had the choice of where and how to sit, stand, and lay, as well as when they were given the autonomy to choose what they read.

Because students cited choice as the primary factor that helped them when they read, and 74% noted the environment as having a significant impact on their attitudes, it could be deduced that students noticed a relationship between the learning environment and their attitudes. However, because that relationship had to do with the opportunities for choice within the learning environment and not solely the environmental design, it could not be concluded that students noticed a relationship between the learning environment and their attitudes about reading unless the environment was a flexible learning space that incorporated various seating options and opportunities to exercise choice.

Recommendations for Schools

It can be concluded that both teachers and students felt that flexible seating options were important to meeting the needs of all students. Students preferred to have choice within their learning environment, and teachers in this school believed in

providing opportunities for choice even at young ages. Some teachers believed in full autonomy, while others believed in structured choice, and that likely varied by the age of the students taught, but could not be directly linked to number of years in the profession.

Students conclusively cited choice as the primary factor in changing their attitudes about reading, while teachers accounted for choice and other factors. Teachers listed environmental elements, relationships, passion and excitement about reading, and flexible grouping as integral to improving students' feeling about reading. Because there was a common thread of flexibility and choice in both parties' accounts, it can be concluded that educators at all levels should heed the results of this study and provide opportunities for choice and flexibility of seating within their classroom environment as ways to meet the needs of all learners. Students need opportunities to exercise choice and to problem solve with support, if needed, when unwise choices are made. Classrooms need to be student-centered and focused on learning rather than on teaching by creating flexible learning spaces that support student autonomy (Donohoo, 2017, p. 21).

The future is unknown, and the careers that present students may have as adults may not have even been developed, yet schools continued to function as they did decades ago. Olson (2009) wrote that those who made decisions about education must adjust their thinking to have "futuristic thinking" that accounts for an unknown future (p. 132). Toffler, a well-known futurist whose work was primarily about the digital revolution remarked in an interview for *Edutopia Magazine* that schools of the future would look much differently than they did at the time of his writings, and that the then-current education system lagged grossly behind business. The education system was not preparing students for the careers they would encounter or at the rate and manner in

which they would have to perform (Daly, 2007, paras. 4, 10, 21). Educators can attempt to right this wrong by designing flexible learning environments where children have opportunities to make choices, succeed or fail, and problem solve with support. These environments will motivate and inspire children to become involved in their learning and could better prepare them for their futures.

Recommendations for Future Research

This study was conducted using qualitative data only. Quantitative analysis of reading assessments from students in traditional classroom settings compared with the same students in a non-traditional flexible learning environment in another year could be conducted to determine if academics were affected by the learning environment. In this elementary school, students in grades three, four, and five were assessed annually using the Missouri Assessment Program (MAP). These students were also assessed at least two times each year on the Fountas and Pinnell Reading Program. This assessment measured annual growth in fluency, accuracy, and comprehension. Either of these assessments may prove beneficial in determining if students' achievement was positively affected by having the choice of where to sit in the learning environment while testing.

The students selected to participate in this study were fourth graders who were known to have experienced a traditional learning environment during their third-grade school year, and then were in the midst of experiencing a flexible learning environment during their fourth-grade school year. All students were invited to participate in the online surveys, and no students were deemed exempt. Because many students entered school with sensory processing needs, it would be beneficial for educators to understand how the learning environment affects students with sensory processing needs in

comparison to those who do not. Disaggregating data to determine if environment choices have more impact on students with sensory input would inform educators of the need to provide choices, as well as what choices need to be made available to students.

This study was conducted in an elementary school where one grade level had fully implemented flexible seating for the entirety of the school year, and at the time of data collection, other teachers in the building had just begun to plan for flexible seating options. Because the concept was new to most educators in the building, choosing flexible seating specific to the needs of individual students was not fully considered. Understanding specialized seating options that matched unique sensory needs would inform the types of seating made available to students each school year, rather than having the same seating made available year after year. This information could be gleaned from students understanding how they learned best, and communicating that information through surveys and interviews. Collecting information from physical and occupational therapists and flexible seating manufacturers would also inform how different seating would help those with sensory processing needs.

Students in this study cited choice as being the main factor to improving their attitudes about reading independently. One aspect of the teacher survey data revealed that the majority of teachers allowed students the autonomy to choose their text over 50% of the time. What was not determined from this study is whether the choice to choose text for students was made due to the age of students, years of experience of the teachers, or the reading strategy taught. Further inquiry into the reasoning behind allowing or not allowing for student autonomy would inform potential professional development

opportunities for teachers, and could be derived from specific questioning on survey and interview questions.

Observations of students in this study were beneficial to the researcher to confirm or dispute the flexible seating and environmental elements found in the fourth-grade classrooms. The choices made by different genders were noted, but did not inform this study. Understanding the choices made by educators, and the needs of students of different genders, would illuminate what seating and environmental elements should be provided within the learning environment. It would also shed light on what options teachers provided and what professional development opportunities about gender differences were needed.

During teacher interviews, a common theme among teachers was how to educate children on understanding how they learned best, and even then, how those needs could change based on the subject matter. Teachers in this study referred to conversations with students about making the choice about where to learn in the space based on their individual needs and not on friendships. Understanding that students may need to stand during math but lay down while reading could maximize the potential in each student. Brain research and understanding sensory processing would help inform those conversations with students at the elementary level so as to aid in their own understanding of themselves as learners.

Teacher survey participants in this study were asked to mark the instructional strategies they used consistently. These options were derived from Marzano et al.'s (2001) list of the nine high-yield instructional strategies. Of the nine, teachers chose cooperative learning, reinforcing effort and providing recognition, and setting objectives

and providing feedback as the strategies they used most consistently. Finding the relationship between the instructional strategies teachers felt most comfortable using consistently and student attitudes about reading would inform the use of instructional practices and the areas in which teachers could benefit from professional development.

Conclusion

The purpose of this study was to gain perspective about the potential relationship between flexible learning spaces and student attitudes about reading independently. Students were tasked daily with reading silently for blocks of time known as Independent Daily Reading (IDR). During these blocks of time, struggling readers often found this task daunting and could become off task. As a means to meet the sensory needs of all learners, the researcher sought to understand how providing flexible seating options might change student attitudes about reading independently, and thus create opportunities for students to be more successful during this time.

The first chapter gave an overview of the study and explained the purpose. The researcher was an administrator in the elementary school where the study took place and wanted to gain perspective about why some students were struggling to behave appropriately during IDR. The problem and purpose were outlined and the research questions and key terms were highlighted to provide a basis for understanding behind the study.

Chapter Two provided the review of literature that helped to inform this study. Because flexible seating was a fairly new concept at the time of this study, little had been written specific to its impact on student academic or behavioral success. The researcher sought to determine what had been written about the history of traditional schooling,

students' sensory needs, and best practices in reading instruction to shed light on how student needs may not have been met in traditional learning environments.

The methodology of this study was laid out in Chapter Three and the demographics of the student and teacher participants were described. This study was conducted at a public elementary school in the Midwest, and teachers from all grade levels were asked to participate both in personal interviews and anonymous online surveys. These teachers came from a variety of backgrounds, number of years of teaching experience, and types of professional experiences. Student participants were in the fourth grade and had experienced both traditional and non-traditional learning environments during their school careers. These participants were from a variety of racial and ethnic backgrounds and had a wide range of reading competency.

Chapter Four reviewed the data from the student and teacher surveys, the teacher interviews, and the researcher observations as they pertained to each of the six research questions. Data were analyzed and reported to support or refute a relationship between flexible learning environments and student attitudes about reading, the relationship between teacher experience and classroom design, and student perceptions about reading related to the environment. The survey and interview data identified choice as a key component to improving student attitudes about reading independently, and teachers added that building positive relationships, putting students in flexible groupings for reading, and showing a personal passion for reading also helped to improve students' attitudes.

The analysis of results was discussed in Chapter Five for the six research questions. Results were conclusively in support of providing choice for students within

the learning environment. Students maintained that having the autonomy to choose what they read and where they learned in the space were key factors to improving their attitudes about reading. Observations by the researcher along with teacher interview and survey data supported these findings. Recommendations for future research were discussed to shed deeper light on to the potential impact of flexible learning environments and their impact on student success.

References

Allington, R. L. (2006). Kids need books they can read. In A. M. Ramos & K. Shannon (Eds.), *What really matters for struggling readers: Designing research-based programs* (2nd ed., p. 61). Boston, MA; Pearson Education.

Aromatherapy. (n.d.). Merriam-Webster's Learner's Dictionary *online.* Retrieved from http://www.merriam-webster.com/dictionary

Baepler, P., Brooks, D. C., & Walker, J. D. (2014). *Active learning spaces: New directions for teaching and learning.* San Francisco, CA: Jossey-Bass.

Barell, J., Darling-Hammond, L., Dede, D., DuFour, R., DuFour, R., Fisher, D., . . . Johnson, D. W. (Eds.). (2010). *21st century skills: Rethinking how students learn*. Bloomington, IN: Solution Tree Press.

Barnhouse, D. & Vinton, V. (2012). Making our foundations and purposes visible. In M. LaRaia (Ed.), *What readers really do: Teaching the process of meaning making* (p.12). Portsmouth, NH: Heinemann.

Biffle, C. (2013). *Whole brain teaching for challenging kids.* Yucaipa, CA: Whole Brain Teaching, LLC

Blatt-Gross, C. (2015, January). Why do we make students sit still in class? *CNN.com* Retrieved from http://www.cnn.com/2014/03/30/living/no-sitting-still-movement-schools/

Boyers, J. (2013, May). Why empathy is the force that moves business forward. *E-Journal of Forbes Magazine: Entrepreneurs*. Retrieved from http://onforb.es/10KNfHR

Calkins, L. M. (2015a). The big picture of a reading workshop. In A. Gratz Cockerille et al. (Eds.), *A guide to the reading workshop* (pp. 28-29). Portsmouth, NH: Heinemann.

Calkins, L. M. (2015b). Record keeping. In A. Gratz Cockerille et al. (Eds.), *Reading pathways: Performance assessments and learning progressions* (p. 143). Portsmouth, NH: Heinemann.

Carbo, M. (2007). Best practices for achieving high, rapid reading gains. *E-Journal of Principal. (2007)*Nov/Dec, 42-45. Retrieved from https://www.naesp.org/sites/ default/ files/resources/2/Principal/2007/N-Dp42.pdf

Cockerille, A. G. (2014, Fall). Reading workshop in the Montessori classroom. [Supplemental material] of the American Montessori Society. New York, NY: Montessori life. Retrieved from http://amshq.org/PublicationsandResearch/ MontessoriLife

Cohen. L., Manion, L., & Morrison, K. (2011). *Research methods in education* (7th ed.). New York, NY: Routledge.

Colton, A., Langer, G., & Goff, L. (2016). *The collaborative analysis of student learning.* Thousand Oaks, CA: Sage Publications.

Competency. (n.d.). Merriam-Webster's Learner's Dictionary *online.* Retrieved from http://www.merriam-webster.com/dictionary

Daly, J. (2007, January). Reshaping learning from the ground up. *E-Journal of Edutopia.* Retrieved from https://www.edutopia.org/future-school

DiMatties, M. (2015). Understanding sensory integration [Supplemental material]. LDonline.org. Retrieved from http://www.ldonline.org/article/5612

Donohoo, J. A. M. (2017). Consequences of collective teacher efficacy. In K. Greenberg (Ed.), C*ollective efficacy: How educators' beliefs impact student learning.* Thousand Oaks, CA: Corwin.

Drapeau, P. (2014). *Sparking student creativity: Practical ways to promote innovative thinking and problem solving.* Alexandria, VA: Association for Supervision and Curriculum Development.

Dumsa, K. (2016, May). Sensory integration in the classroom. Rainbow Rehabilitation Centers. Retrieved from http://www.rainbowrehab.com/sensory-integration-classroom/

Education.com, Inc. (2013). *Learning modalities*. Retrieved from http://www.education.com/reference/article/learning-modalities/

Edutopia. (2015a). *Energy and calm: Brain breaks and focused-attention practices.* Retrieved from https://www.edutopia.org/blog/brain-breaks-focused-attention-practices-lori-desautels

Edutopia. (2015b). *Flexible classrooms: Providing the learning environment that kids need.* Retrieved from https://www.edutopia.org/practice/flexible-classrooms-providing-learning-environment-kids-need

Fountas, I. C., & Pinnell, G. S. (1996). Guided reading within a balanced literacy program. In T. Gordon (Ed.), *Guided reading: Good first teaching for all children* (p. 32). Portsmouth, NH: Heinemann.

Furnham, A. (2017, January). Breaking up is hard to do: The right and left brain. *E-Journal of Psychology Today: A Sideways View.* Retrieved from https://www.

psychologytoday.com/blog/sideways-view/201701/breaking-is-hard-do-the-right-and-left-brain

Glaser, J. E. (2017, January). The neurochemistry of power conversations. *E-Journal of Psychology Today: Conversational Intelligence.* Retrieved from https://www.psychologytoday.com/blog/conversational-intelligence/201701/the-neuro chemistry-power-conversations

Glaser, J. E. & Glaser, R. (2014, June). The neurochemistry of positive conversations. *E-Journal of Harvard Business Review: Communication.* Retrieved from https://hbr.org/2014/06/the-neurochemistry-of-positive-conversations

Goodwin, B., Lefkowits, L., Woempner, C., & Hubbell, E. (2011). *The future of schooling: Educating America in 2020.* Bloomington, IN: Solution Tree Press.

Gray, P. (2008a, July). Learning requires freedom. *E-Journal of Psychology Today: Freedom to Learn.* Retrieved from https://www.psychologytoday.com/blog/freedom-learn/200807/learning-requires-freedom

Gray, P. (2008b, August). A brief history of education. *E-Journal of Psychology Today: Freedom to Learn.* Retrieved from https://www.psychologytoday.com/blog/freedom-learn/200808/brief-history-education

Gray, P. (2010, September). Experiences of ADHD-labeled kids who leave typical schooling. *E-Journal of Psychology Today: Freedom to Learn.* Retrieved from https://www.psychologytoday.com/blog/freedom-learn/201009/experiences-adhd-labeled-kids-who-leave-typical-schooling

Gray, P. (2011, May). The human nature of teaching II: What can we learn from hunter-gatherers? *E-Journal of Psychology Today: Freedom to Learn.* Retrieved from

https://www.psychologytoday.com/blog/freedom-learn/201105/the-human-nature-teaching-ii-what-can-we-learn-hunter-gatherers

Gray, P. (2014, October). One more really big reason to read stories to children. *E-Journal of Psychology Today: Freedom to Learn.* Retrieved from https://www.psychologytoday.com/blog/freedom-learn/201410/one-more-really-big-reason-read-stories-children

Gray, P. (2015, June). How early academic training retards intellectual development. *E-Journal of Psychology Today: Freedom to Learn.* Retrieved from https://www.psychologytoday.com/blog/freedom-learn/201506/how-early-academic-training-retards-intellectual-development

Gray, P. (2016a, April). Inverse relationship between GPA and innovative orientation. *E-Journal of Psychology Today: Freedom to Learn.* Retrieved from https://www.psychologytoday.com/blog/freedom-learn/201604/inverse-relationship-between-gpa-and-innovative-orientation

Gray, P. (2016b, October). The culture of childhood: We've almost destroyed it. *E-Journal of Psychology Today: Freedom to Learn.* Retrieved from https://www.psychologytoday.com/blog/freedom-learn/201610/the-culture-childhood-we-ve-almost-destroyed-it

Hall, K. S. (n. d.) Sensory integration tips for teachers [Supplemental material]. SPDbayarea.org. Retrieved from http://spdbayarea.org/SPD_tips_for_teachers.htm

Harvey, S., & Goudvis, A. (2007). *Strategies that work: Teaching comprehension for understanding and engagement* (2nd ed., pp. 46-49). Portland, ME: Stenhouse Publishers.

Hopkins, G. (2007). Silent sustained reading helps develop independent readers (and writers). *E-Journal of Education World.* Retrieved from http://www.education world.com/a_curr/curr038.shtml

Horn, M. B., & Staker, H. (2015). *Blended: Using disruptive innovation to improve schools.* San Francisco, CA: Jossey-Bass.

Hudson, A. K., & Williams, J. A. (2015). Reading every single day: A journey to authentic reading. *The reading teacher,* Vol. 68, Issue 7 (pp. 530-538). International Literacy Association. doi:10.1002/trtr.1349

Kingore, B. (2004). High achiever, gifted learner, creative thinker. In B. Kingore, *Differentiation: Simplified, realistic, and effective* (p. 14). Austin, TX: Professional Associates Publishing.

Kolb, A. Y. & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning & Education*, *4*(2), 193-212.

Lagemann, E. C., Geiger, R. L., & Woloch, N. (2014). Education. In E. Foner & J. A. Garraty (Eds.), *The Reader's companion to American history* (n.p.). Boston, MA: Houghton Mifflin.

Learning-Styles-Online. (2017). Overview of learning styles [Supplemental resource]. Retrieved from https://www.learning-styles-online.com/overview/

Levy, S. (2015). How to teach reading skills. [Supplemental material]. Busyteacher.org Retrieved from http://busyteacher.org/14461-how-to-teach-reading-skills-10-best-practices.html

Margalit, L. (2017, January). Sensory marketing: The smell of cinnamon that made me buy. *E-Journal of Psychology Today: Behind Online Behavior.* Retrieved from https://www.psychologytoday.com/blog/behind-online-behavior/201701/sensory-marketing-the-smell-cinnamon-made-me-buy

Marzano, R. J., Pickering, D., & Pollock, J. E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement.* Alexandria, VA: Association for Supervision and Curriculum Development.

Marzano, R. J., Frontier, T., & Livingston, D. (2011). *Effective supervision: Supporting the art and science of teaching* (p. 25). Alexandria, VA: ASCD.

Maxwell, J. A. (2013). Validity. In V. Knight & L. Habib (Eds.), *Qualitative research design: An interactive approach* (pp. 124-125). Thousand Oaks, CA: Sage Publications.

McCardle, P., & Chhabra, V. (2004). Motivating students to read. In P. McCardle & V. Chhabra (Eds.), *The voice of evidence in reading research* (pp. 331-332). Baltimore, MD: Paul H. Brooks Publishing Co.

Merriam-Webster's Learner's Dictionary *online.* (n.d.) Retrieved from http://www.merriam-webster.com/dictionary

Michelli, J. A. (2007). *The Starbucks experience* (p. 52). New York, NY: McGraw-Hill.

Miller, S. (2007). Supporting how children learn best. *E-Journal of Early Childhood News.* Retrieved from http://www.earlychildhoodnews.com/earlychildhood/ article_ view.aspx?ArticleID=645

Moravec, J. (2015). Manifesto 15. Retrieved from https://www.manifesto15.org/en/

Mushi, S. P. (2015). *A global analysis of education in the 21st century: What kinds of schools do we need today?* Lewiston, NY: The Edwin Mellen Press.

New Zealand Ministry of Education. (2016). *Flexible learning spaces in schools.* Retrieved from http://www.education.govt.nz/school/property/state-schools/ design-standards/flexible-learningspaces/

Olson, K. (2009). *Wounded by school: Recapturing the joy in learning and standing up to old school culture.* New York, NY: Teachers College Press.

Ostroff, W. L. (2016). *Cultivating curiosity in K-12 classroom.* Alexandria, VA: Association for Supervision and Curriculum Development.

Paradigm shift. (n.d.). Merriam-Webster's Learner's Dictionary *online.* Retrieved from http://www.merriam-webster.com/dictionary

Partnership for 21st Century Learning. (2017). Framework for 21st century learning. Retrieved from https://www.P21.org

Personalized. (n.d.). Merriam-Webster's Learner's Dictionary *online.* Retrieved from http://www.merriam-webster.com/dictionary

Personalized learning. (2015). *Edglossary*. Retrieved from http://www.edglossary.org/ personalized-learning/

Proprietary design. (n.d.). Merriam-Webster's Learner's Dictionary *online.* Retrieved from http://www.merriam-webster.com/dictionary

Richards, J. (2002, March). Why teachers resist change (and what principals can do about it). *Principal 90*(3), 75-77.

Richardson, L. S. (2011, May). Play power: How to turn around our creativity crisis. *E-Journal of The Atlantic: Business.* Retrieved from https://www.theatlantic.com/business/archive/2011/05/play-power-how-to-turn-around-our-creativity-crisis/238167/

Rohrer, D. & Pashler, H. (2012). Learning styles: Where's the evidence? *Medical Education, 46,* 634-635. doi: 10:1111/j.365-2923.2012.04273.x

Routman, R. (2003). Teach with a sense of urgency. In L. Bridges (Ed.), *Reading essentials: The specifics you need to teach reading well* (pp. 42-43). Portsmouth, NH: Heinemann.

Sax, L. (2007). *Boys adrift: The five factors driving the growing epidemic of unmotivated and underachieving young men* (p. 8). New York, NY: Basic Books.

Smialek, M. A. (n. d.). How children learn [Supplemental material]. Maryannsmialek.com. Retrieved from http://maryannsmialek.com/resources/articles/how_learn.html

Springer, T. (2010). *The future of ergonomic office seating.* Retrieved from https://www.knoll.com/media/477/936/wp_future_ergonomic_seating.pdf

Stevens, N. L. (2016). Choice and rigor: Achieving a balance in middle school reading/language arts classrooms in the era of the common core. *Reading horizons, 55*(2), 64-76.

Teach the Earth. (2016). *Kinesthetic Learning.* Retrieved from http://serc.carleton.edu/NAGT Workshops/mineralogy/xtlsymmetry/kinesthetics.html

Thompson, S. D. & Raisor, J. M. (2013). Meeting the sensory needs of young children. *E-Journal of National Association for the Education of Young Children, 2*(3), 34-43. Retrieved from http://www.naeyc.org/yc/files/yc/file/201305/Meeting_Sensory_Needs_Thompson_0513.pdf

Thornburg, D. (2014). *From the campfire to the holodeck: Creating engaging and powerful 21st century learning environments* (1st ed.). San Francisco, CA: Jossey-Bass.

Tomlinson, C. A. (2003). *Fulfilling the promise of the differentiated classroom: Strategies and tools for responsive teaching.* Alexandria, VA: ASCD.

Treviño, D. (2011). Education. In C. L. Clark (Ed.), *The American economy: A historical encyclopedia* (2nd ed.). Santa Barbara, CA: ABC-CLIO. Retrieved from http://gatekeeper2.lindenwood.edu/login?url=http://search.credoreference.com/content/entry/abcamerecon/education/2?institutionId=7708

Turner, B. S., Abercrombie, N., & Hill, S. (2006). Hidden curriculum. In N. Abercrombie, S. Hill, & B. S. Turner (Eds.). *The penguin dictionary of sociology* (5th ed., n.p.). London, UK: Penguin. Retrieved from http://gatekeeper2.lindenwood.edu/login?url=http://search.credoreference.com/content/entry/penguinsoc/hiddencurriculum/0?institutionId=7708

Vosniadou, S. (2002). Developmental and individual differences. In. H. Walberg (Ed.), *How children learn* (p. 25). Retrieved from http://www.ibe.unesco.org/en/document/how-children-learn-educational-practices-7

Williams, R. B. (2015). *Higher-order thinking skills: Challenging all students to achieve.* New York, NY: Skyhorse Publishing, Inc.

Zhao, Y. (2009). How is creativity killed? In D. Russell (Ed.), *Catching up or leading the way: American education in the age of globalization* (p. 92). Alexandria, VA: Association for Supervision and Curriculum Development.

Appendices

Appendix A: Student Survey Questions

Student Survey

Please think about and answer each question honestly and provide details where needed. Your identity and answers will be confidential.

On this survey when asked to think about times you read "independently", it means when you read alone without a partner or in a group. Think about your silent-sustained reading periods.

* Required

How long have you been in this elementary school? *

- ◯ This is my first year
- ◯ This is my second year
- ◯ This is my third year
- ◯ I have been in this school since kindergarten

What is your favorite subject in school? *

- ◯ Math
- ◯ Reading
- ◯ Writing
- ◯ Social Studies
- ◯ Science

Which words best describe your classroom environment? Mark all that apply. *

- [ ] Open seating - We can sit wherever we want all the time
- [ ] Flexible seating - We can choose from at least 3 different types of seating options
- [ ] Traditional seating - Plastic student chairs
- [ ] Individual desks are present
- [ ] Student tables are present
- [ ] Bright light mostly
- [ ] Dimmed light mostly
- [ ] Window shades are usually open & my teacher sometimes opens the windows
- [ ] Window shades are usually closed
- [ ] Noisy most of the time
- [ ] Quiet most of the time
- [ ] Mostly bright colors (primary colors)
- [ ] Mostly muted colors (brown, gray, black, white)
- [ ] Music plays when students work
- [ ] Posters and charts fill the walls
- [ ] Walls & boards are mostly bare- only necessary information is up
- [ ] We have expected routines for independent reading time (structured)
- [ ] We don't have expected routines for independent reading time (unstructured)

Do you like to read? *

- ○ Yes
- ○ Somewhat
- ○ No

When reading, which option do you like best? *

- ○ Reading alone
- ○ Reading with a partner
- ○ Reading in a small group with an adult helping

Rate how you feel when you read independently in your classroom. *

- ○ 5 - I love it
- ○ 4 - I like it
- ○ 3 - It's just okay
- ○ 2 - I'm glad when it's over
- ○ 1 - I hate it
- ○ Other:

How often are you allowed to choose what you want to read during independent reading time in class? *

	1	2	3	4	
Never	○	○	○	○	Always

Is your classroom environment different this year than it was last year? *

- ○ Yes
- ○ Somewhat
- ○ No

You answered “Yes” or “Somewhat”. Please explain, with details, how it is different.

Click on the classroom environment you prefer to learn in. *

- ○ Traditional (individual desks and chairs)
- ○ Flexible (tables, desks, and alternate seating options)

Appendix B: Teacher Survey Questions

How many years have you been a classroom teacher? *

Choose

How many years have you been in your current grade level? *

- ○ 0-5
- ○ 6-10
- ○ 11 or more

Which word best characterizes your teaching style? *

- ○ Traditional
- ○ Structured
- ○ Unstructured
- ○ Flexible
- ○ Ever-changing
- ○ Other:

Which words best describe your classroom environment/set-up? *

- ☐ Open seating - students can sit where they want all of the time
- ☐ Flexible seating - there are at least 3 different options for student seating
- ☐ Traditional seating - plastic student chairs
- ☐ Individual desks are present
- ☐ Student tables are present
- ☐ Bright light mostly
- ☐ Dimmed light mostly
- ☐ Window shadesare usually open & windows are sometimes open
- ☐ Window shades are usually closed
- ☐ Noisy most of the time
- ☐ Quiet most of the time
- ☐ Mostly bright colors/tones (primary colors)
- ☐ Mostly muted colors/tones (brown, black, gray, white)
- ☐ Music plays when students work
- ☐ Posters/charts fill the walls and boards
- ☐ Walls and boards are minimally filled- only necessary information is up
- ☐ Structured routines are established and followed during independent reading periods
- ☐ Unstructured routines are established and followed during independent reading periods
- ☐ Other:

Does your classroom set up look "complete" prior to students arriving on the first day? *

- ○ Yes
- ○ Somewhat
- ○ No

Please indicate how you get to know your students at the beginning of the school year. Mark all options that apply. *

- ☐ Learning modalities survey
- ☐ Interest survey
- ☐ Parent survey
- ☐ Student interview
- ☐ I learn about my students organically and do not conduct surveys or interviews
- ☐ Other:

Do you change the structure of your classroom after learning about your students? *

- ○ Yes
- ○ Somewhat
- ○ No
- ○ Other:

Mark the instructional strategies you feel you use consistently when teaching reading. *

- [ ] IDENTIFY SIMILARITIES & DIFFERENCES: Break a concept into its similar & dissimilar characteristics allowing students to understand complex problems by analyzing them in a more simple way.
- [ ] SUMMARIZING & NOTE-TAKING: Ask students to analyze a subject to expose what's essential and then require them to put the information in their own words.
- [ ] REINFORCE EFFORT & PROVIDE RECOGNITION: Show students the connection between effort & achievment.
- [ ] HOMEWORK & PRACTICE: Explain the purpose of homework to both students & parents/guardians, AND give feedback on all homework assigned.
- [ ] NONLINGUISTIC REPRESENTATIONS: Incorporate words and images using symbols to represent relationships AND/OR use physical movement to represent information.
- [ ] COOPERATIVE LEARNING: Group work utilizing the components of positive interdependence, group processing, appropriate use of social skills, face-to-face interaction, and/or individual group accountability.
- [ ] SET OBJECTIVES & PROVIDE FEEDBACK: Provide direction for learning wherein goals are not too specific and are easily adaptable to student objectives.
- [ ] GENERATE & TEST HYPOTHESES: Students clearly explain their hypotheses and conclusions.
- [ ] CUES, QUESTIONS, & ADVANCE ORGANIZERS: Tools used are highly analytical, focus on what is important, &are presented before a learning experience.

On average, how much time do you provide your students to read independently (silent-sustained reading) each day? *

- ○ Less than 10 minutes
- ○ 10-20 minutes
- ○ 20-30 minutes
- ○ 30-40 minutes
- ○ 40-60 minutes
- ○ More than 60 minutes

Do you allow your students to choose where they read in your classroom during independent reading (silent-sustained reading)? *

- ○ Yes
- ○ Sometimes
- ○ No

What are the seating options available to your students during independent reading (silent-sustained reading)? *

Your answer

How often would you say your students have complete autonomy to choose the text they read when independently reading (silent-sustained reading)? *

- ○ 0% - 25% of the time
- ○ 26% - 50% of the time
- ○ 51% - 75% of the time
- ○ 76% - 100% of the time
- ○ Other:

Appendix C: Teacher Interview Questions

Tell me about your career to this point.

Tell me about your teaching style.

Describe the measures you use to improve how students feel about reading.

Using your senses, describe the ideal learning environment for students.

Tell me about the learning and experiences that have shaped your thinking about learning environments.

Appendix D: Classroom Observation Form

Observation notes:_____ Males present _____ Females present _____

# of seating options observed & types # of seating options utilized by students

Male choices observed Female choices observed

Did students have autonomy to choose text? book boxes classroom library

backpack teacher directed

Was anything directed (ie. Fiction or non-fiction specific, purpose of reading-task?)

Describe classroom environment

Routines observed

Appendix E: Parent Consent Letter

INFORMED CONSENT FOR PARENTS TO SIGN FOR STUDENT PARTICIPATION IN RESEARCH ACTIVITIES

"A Qualitative Study of Learning Spaces at a Midwest Elementary School and its Relationship to Student Attitudes about Reading"

Principal Investigator: Stefanie Limpert Telephone: 314-640-1221 E-mail: sml677@lindenwood.edu

Participant _____ Parent Contact info _____

Dear parent,

1. Your child is invited to participate in a research study conducted by Stefanie Limpert under the guidance of Dr. Robyn Elder. The purpose of this research is to investigate the relationship between flexible learning environments, including flexible seating options, and student attitudes about independent reading.

2. a) Your child's participation will involve completion of an online survey in his or her classroom. Approximately 83 student participants may be involved in this research.

   b) The amount of time involved in your child's participation will consist of a minimum of 10 minutes and a maximum of 20 minutes to complete the online survey during school hours. *No core instruction time will be used for student participants to complete the survey.*

3. There are no anticipated risks to your child associated with this research.

4. There are no direct benefits for your child's participation in this study. However, your child's participation will contribute to the knowledge about the relationship between flexible learning environments, including flexible seating options, and student attitudes about independent reading, and may help society in general.

5. Your child's participation is voluntary and you may choose not to let your child participate in this research study or to withdraw your consent for your child's participation at any time. Your child may choose not to answer any questions that he or she does not want to answer. You and your child will NOT be penalized in any way should you choose not to let your child participate or to withdraw your child.

6. We will do everything we can to protect your child's privacy. As part of this effort, your child's identity will not be revealed in any publication or presentation that may result from this study.

7. If you have any questions or concerns regarding this study, or if any problems arise, you may call the Investigator, Stefanie Limpert at 314-640-1221, or the Supervising Faculty, Dr. Robyn Elder at 314-566-4884. You may also ask questions of or state concerns regarding your participation to the Lindenwood Institutional Review Board (IRB) through contacting Dr. Marilyn Abbott, Interim Provost at mabbott@lindenwood.edu or 636-949-4912.

Please record your consent on attached document.

I have read this consent form and have been given the opportunity to ask questions. I will also be given a copy of this consent form for my records. I consent to my child's participation in the research described above.

Parent's/Guardian's Signature	Date	Parent's/Guardian's Printed Name
Child's Printed Name		
Signature of Investigator	Date	Investigator Printed Name

Appendix F: Adult Consent Form

INFORMED CONSENT FOR PARTICIPATION IN RESEARCH ACTIVITIES

"A Qualitative Study of Learning Spaces at a Midwest Elementary School and its Relationship to Student Attitudes about Reading"

Principal Investigator: Stefanie Limpert Telephone: 314-640-1221 E-mail: sml677@lindenwood.edu

Participant _____ Contact info _____

Dear Participant,

1. You are invited to participate in a research study conducted by Stefanie Limpert under the guidance of Dr. Robyn Elder. The purpose of this research is to investigate the relationship between flexible learning environments, including flexible seating options, and student attitudes about independent reading.

2. a) Your participation will involve completion of an online survey, an in person with a neutral representative, and your allowance of a neutral representative observing student behavior in your classroom.

   b) The amount of time involved in your participation will consist of a minimum of 10 minutes and a maximum of 20 minutes to complete the online survey, a minimum of 20 minutes conversing with the representative in a face-to-face interview, and approximately one 30-minute observation of student behavior. *No core instruction time will be used for participants to complete the survey or interview.*

   Approximately 8 adult participants and it is anticipated that 83 student participants will be involved in this research.

3. There may be certain risks or discomforts associated with this research, which include feelings of discomfort when answering questions related to your classroom environment.
4. There are no direct benefits for you participating in this study. However, your participation will contribute to the knowledge about the relationship between flexible learning environments, including flexible seating options, and student attitudes about independent reading, and may help society in general.

5. Your participation is voluntary and you may choose not to participate in this research study or to withdraw your consent at any time. You may choose not to answer any questions that you do not want to answer. You will NOT be penalized in any way should you choose not to participate or to withdraw.

6. We will do everything we can to protect your privacy. As part of this effort, your identity will not be revealed in any publication or presentation that may result from this study and the information collected will remain in the possession of the investigator in a safe location.

4. 7. If you have any questions or concerns regarding this study, or if any problems arise, you may call the If you have any questions or concerns regarding this study, or if any problems arise, you may call the Investigator, Stefanie Limpert at 314-640-1221, or the Supervising Faculty, Dr. Robyn Elder at 314-566-4884. You may also ask questions of or state concerns regarding your participation to the Lindenwood Institutional Review Board (IRB) through contacting Dr. Marilyn Abbott, Interim Provost at mabbott@lindenwood.edu or 636-949-4912.

I have read this consent form and have been given the opportunity to ask questions. I will also be given a copy of this consent form for my records. I consent to my participation in the research described above.

_____ _____
Participant's Signature Date Participant's Printed Name

_____ _____
Signature of Principal Investigator Date Investigator Printed Name

Appendix G: Child Assent Form

Lindenwood University

ASSENT TO PARTICIPATE IN RESEARCH

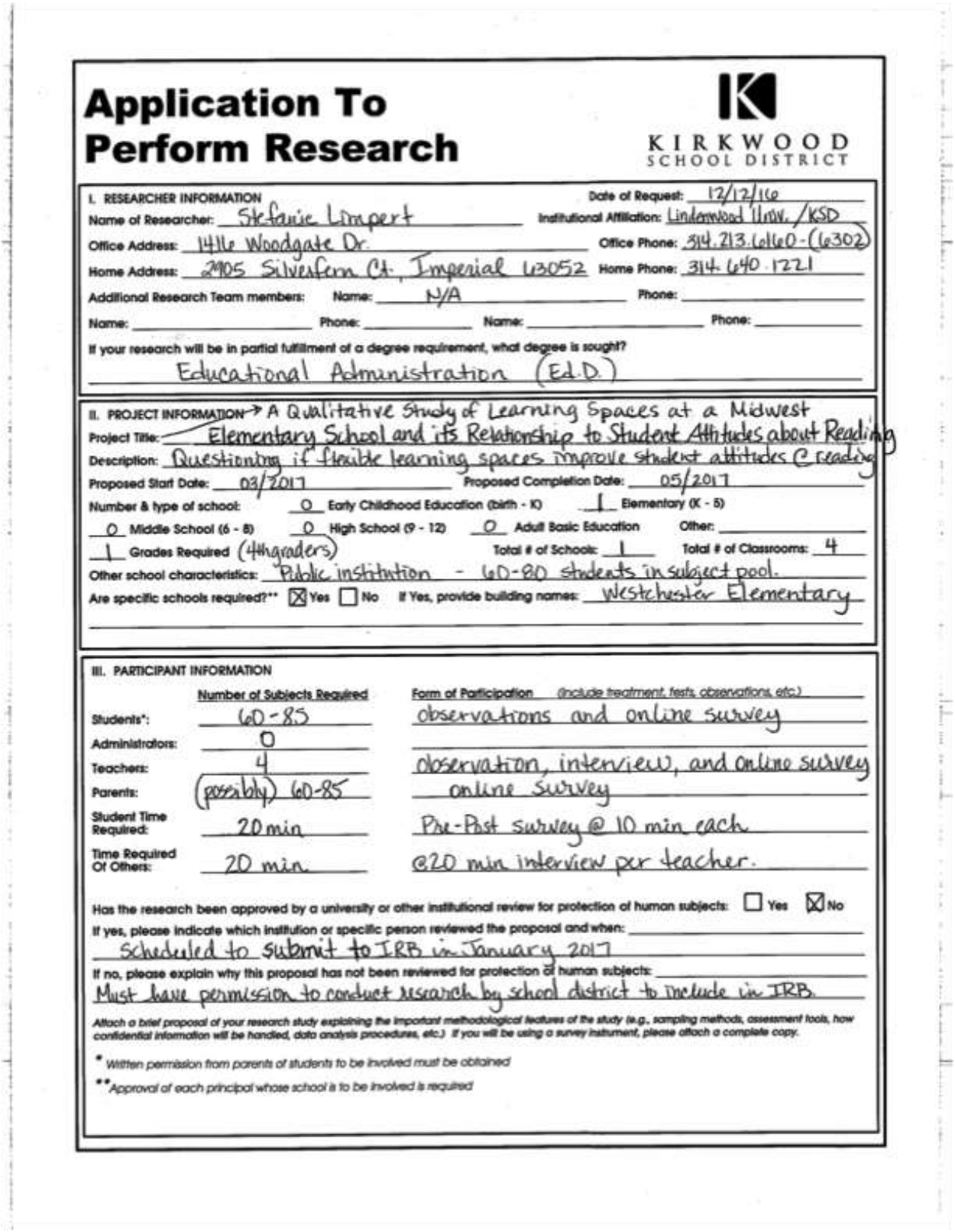
"A Qualitative Study of Learning Spaces at a Midwest Elementary School and its Relationship to Student Attitudes about Reading"

1. My name is Mrs. Stefanie Limpert.
2. We are asking you to take part in a research study because we are trying to learn more about the relationship between flexible learning environments which includes flexible seating options, and the attitudes or feelings students have about reading independently.
3. If you agree to be in this study, you will complete a short online survey asking about your personal experiences in school, and how you feel when you read independently in class. You will also be present in class when a research representative observes for a minimum of 30 minutes in your classroom.
4. There are no anticipated risks to you by being a part of this research.
5. There are no direct benefits to you if you participate in this study. However, your participation will contribute to current knowledge about the relationship between flexible learning environments, including flexible seating options, and student attitudes about independent reading.
6. Please talk this over with your parents before you decide whether or not to participate. We will also ask your parents to give their permission for you to take part in this study. But even if your parents say "yes" you can still decide not to do this.
7. If you don't want to be in this study, you don't have to participate. Remember, being in this study is up to you and no one will be upset if you don't want to participate or even if you change your mind later and want to stop.
8. You can ask any questions that you have about the study. If you have a question later that you didn't think of now, you can call me at 6302 or ask me when you see me.
9. Signing your name at the bottom means that you agree to be in this study. You and your parents will be given a copy of this form after you have signed it.

_____ _____

Name of Subject Date

Appendix H: Research Approval Documentation



Application To Perform Research

KIRKWOOD SCHOOL DISTRICT

I. RESEARCHER INFORMATION

Date of Request: 12/12/16

Name of Researcher: Stefanie Limpert

Institutional Affiliation: Lindenwood Univ. / KSD

Office Address: 1411e Woodgate Dr.

Office Phone: 314.213.6160 - (6302)

Home Address: 2905 Silverfern Ct. Imperial 63052

Home Phone: 314.640.1221

Additional Research Team members: Name: N/A Phone:

Name: Phone: Name: Phone:

If your research will be in partial fulfillment of a degree requirement, what degree is sought?

Educational Administration (Ed.D.)

II. PROJECT INFORMATION

Project Title: A Qualitative Study of Learning Spaces at a Midwest Elementary School and its Relationship to Student Attitudes about Reading

Description: Questioning if flexible learning spaces improve student attitudes & reading

Proposed Start Date: 03/2017

Proposed Completion Date: 05/2017

Number & type of school: 0 Early Childhood Education (birth - K) 1 Elementary (K - 5)

0 Middle School (6 - 8) 0 High School (9 - 12) 0 Adult Basic Education Other:

1 Grades Required (4th graders) Total # of Schools: 1 Total # of Classrooms: 4

Other school characteristics: Public institution - 60-80 students in subject pool.

Are specific schools required?** ☒ Yes ☐ No If Yes, provide building names: Westchester Elementary

III. PARTICIPANT INFORMATION

	Number of Subjects Required	Form of Participation (include treatment, tests, observations, etc.)
Students*:	60-85	observations and online survey
Administrators:	0	
Teachers:	4	observation, interview, and online survey
Parents:	(possibly) 60-85	online survey
Student Time Required:	20 min	Pre-Post survey @ 10 min each
Time Required Of Others:	20 min.	@20 min interview per teacher.

Has the research been approved by a university or other institutional review for protection of human subjects: ☐ Yes ☒ No

If yes, please indicate which institution or specific person reviewed the proposal and when:

Scheduled to submit to IRB in January 2017

If no, please explain why this proposal has not been reviewed for protection of human subjects:

Must have permission to conduct research by school district to include in IRB.

Attach a brief proposal of your research study explaining the important methodological features of the study (e.g., sampling methods, assessment tools, how confidential information will be handled, data analysis procedures, etc.) If you will be using a survey instrument, please attach a complete copy.

* *Written permission from parents of students to be involved must be obtained*

** *Approval of each principal whose school is to be involved is required*

Application To Perform Research
(Continued)

KIRKWOOD SCHOOL DISTRICT

IV. RESULTS INFORMATION

What is the anticipated value of this research?

In general: Will confirm (or reject) that flexible learning environment improve student attitudes about reading.

To Kirkwood School District: Will inform schools and teachers of a potential way in which to improve attitudes @ reading and thus far improve academic success.

V. CONFIDENTIALITY INFORMATION

If you have extended confidentiality, names may be omitted from this item.

Have you conducted research in other school systems? ☐ Yes ☒ No

If yes, please name: _____

Are other school systems involved in this research? ☐ Yes ☒ No

If yes, please name: _____

NOTE: All researchers who plan to collect information from or about individual students should attach copies of the proposed consent forms and a brief description of planned procedures for obtaining informed consent. Research involving individual students may require the informed consent and signed agreement of parents or legal guardians.

VI. DISSEMINATION

How will the results of your study be used? Will they be available to the public in any form? If so, what groups will have access to the results? Will the Kirkwood School District, or any individuals within Kirkwood, be identified in your reports? Please explain:

Results will be used to enhance the learning environments at WE. Dissertation will be published via Lindenwood Univ. Neither KSD, nor individuals will be identified.

VII. COMPLETION OF RESEARCH REQUIREMENTS

Upon completion of the research, you are required to submit two copies of the report or summary.

By signing this application, the applicant certifies that the research herein described involves an investigation which:

1. Promises to produce information of value to Kirkwood or the field of education;
2. provides adequate safeguards for participants' rights;
3. does not detract from the primary mission of instruction; and
4. is not-for-profit in nature

Signature of Applicant: Stefanie Limpert Date: 12/12/16

PRINT name of Institutional Advisor, Professor, or Supervisor: Robyne Elder Institution: Lindenwood Univ.

SIGNATURE of Institutional Advisor, Professor, or Supervisor: Robyne Elder Office Phone: 314-566-4884

DISTRICT USE ONLY:

Signature of Superintendent or Designee: _____ Date: 1/5/17

Signature(s) of Administrator(s) affected: _____ Date: 12/12/16

_____ Date: _____

_____ Date: _____

Vitae

Stefanie Marie Limpert was born in Poplar Bluff, Missouri and at the age of nine, moved to St. Louis, Missouri where she grew up. After graduating from Oakville High School, Mrs. Limpert spent two years at the Kansas City Art Institute before realizing her true calling to be an educator. She transferred to Southern Illinois University at Edwardsville and earned her Bachelor's degree in Elementary Education. She continued her education first through Missouri Baptist, earning a Master's degree in Elementary Education and a second Master's degree in Elementary Administration. Mrs. Limpert taught in the primary grades in three counties in the St. Louis area before becoming an administrator in Kirkwood, Missouri, and in 2016, Mrs. Limpert earned her Educational Specialist degree in Educational Administration from Lindenwood University.

Mrs. Limpert has a passion for building relationships with students, and using innovating ideas to meet the needs of all learners within the field of education. She and her husband, Jason, have three beautiful children, two dogs, and a lizard to round out their family.