Out With The Old: Reinventing Space in the Classroom

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ABSTRACT

Out with the Old: Reinventing Space in the Classroom

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This research study explored the impact of space and classroom environments on student engagement and learning. The traditional classroom design is determined mostly by the personality of the teacher, or the theme that they choose to integrate. Traditionally, tables and desks are placed in groups or rows, based on teacher preference, and students are confined to small 2 feet by 3 feet spaces. While teachers thus make their classrooms private to themselves and seldom involve students in crucial decisions about their layout, schools are inherently public places. In this thesis, targeted at elementary school teachers, the teacher/researcher considers the benefits of alternating the learning environment and involving the students in redesigning their classroom space. This research is a reflection based on the implementation of such a change in a fifth-grade classroom.

Keywords: elementary education, physical layout, learning environment
This thesis did not come about through my own efforts alone. I received the support of many family members, friends, and professors to bring this to pass. I am extremely grateful for the ways in which I have grown as a teacher, a student, and a thinker. My experiences in the field of education have been a huge benefit for me.

I want to thank my father, Christophe Giraud-Carrier, for being my greatest support. His constant positive encouragement helped me to create things I did not think I could. His love for education instilled in me a desire to push myself in my field and look for ways to contribute to the discussions surrounding it. Having him on my committee was a wonderful experience as he acted as a mentor and a friend.

I am grateful for Dan Barney and the ways in which he truly pushed my thinking. He often made me question my opinions and teaching approaches, and through that process has taught me to have a strong voice in my field. He has also helped me to understand the importance of becoming a lifelong learner. Education does not end at the receiving of a diploma, it is something that continues far beyond that.

Mark Graham taught me to love teaching. The way in which he constantly shared his teaching experiences drove me to become passionate about what I do. I am very grateful to Mark because he has helped me to have a firmer grasp on art education as well as the importance of art in everyday conversation.

Lastly, I want to thank my husband, Jake, for enduring through this time-consuming process. He was there to support me at all hours of the day and night. On the multiple occasions I wanted to quit, he reminded me of the importance of my work as well as the fruits that it would bring forth.
# TABLE OF CONTENTS

Out with the Old: Reinventing Space in the Classroom .......................................................... i
ABSTRACT ................................................................................................................................. ii
ACKNOWLEDGMENTS .......................................................................................................... iii
TABLE OF CONTENTS .......................................................................................................... iv
List of Figures ......................................................................................................................... vii
Chapter 1: Introduction ......................................................................................................... 1
  Problem ................................................................................................................................. 1
  Response ............................................................................................................................... 4
  My Teaching Circumstances .............................................................................................. 5
  Methodology ......................................................................................................................... 6
  The Research ......................................................................................................................... 7
Chapter 2: Literature Review ............................................................................................. 8
  The Learning Environment ................................................................................................. 8
  Student Engagement .......................................................................................................... 14
  Reggio Emilia ....................................................................................................................... 15
  Conclusion ............................................................................................................................ 19
Chapter 3: Methodology .................................................................................................. 20
  Theoretical Framework ....................................................................................................... 20
  Selecting Action Research ................................................................................................. 21
  An overview of Action Research ..................................................................................... 22
  Action Research and the Elementary Teacher ................................................................. 24
  Data Collection ................................................................................................................... 25
Appendices

Appendix 1: Classroom Announcement Script ................................................................. 65
Appendix 2: Assent Form ................................................................................................. 66
Appendix 3: Consent Form ............................................................................................... 68
Appendix 4: Student Survey ............................................................................................. 70
List of Figures

Figure 1. Photograph of a fifth-grade classroom ................................................................. 28
Figure 2. Photograph of a second-grade classroom .............................................................. 29
Figure 3. Photograph of a second-grade classroom .............................................................. 29
Figure 4. Photograph of my fifth-grade classroom ............................................................... 30
Figure 5. Student sketch of ideal classroom #1 ................................................................. 32
Figure 6. Student sketch of ideal classroom #2 ................................................................. 33
Figure 7. Student sketch of ideal classroom #3 ................................................................. 34
Figure 8. Student sketch of ideal classroom #4 ................................................................. 35
Figure 9. Student sketch of ideal classroom #5 ................................................................. 36
Figure 10. Our classroom space without chairs or desks (1) ............................................... 37
Figure 11. Our classroom space without chairs or desks (2) ............................................... 38
Figure 12. Students working in the new physical layout of the classroom (1) .................... 39
Figure 13. Students working in the new physical layout of the classroom (2) .................... 40
Figure 14. Students working in the new physical layout of the classroom (3) .................... 40
Figure 15. Student sketch following the new physical layout #1 ....................................... 48
Figure 16. Student sketch following the new physical layout #2 ....................................... 49
Figure 17. Student sketch following the new physical layout #3 ....................................... 50
Chapter 1: Introduction

Public spaces can be defined as physical environments that are accessible by and shared with members of a given community. Such access is driven by the choice of a community to interact with that space. Furthermore, a public space is oftentimes seen as open and welcoming, with a few restrictions that may be set in place by the community itself. Much like a public library, or a public pool, a public school is a space in which members of a community interact with each other and share resources made available to them.

Certain requirements are to be met when interacting in these public spaces. For example, visitors may be expected to check in at an office, and possibly leave behind any items that may represent a hazard to, or otherwise be inappropriate for that public space. Its setup is often meant to encourage interaction among participants who interact with that space, whether administrative or support staff, official patrons and casual visitors. Such social and cultural aspects can be found in individual school classrooms as well.

Problem

After considering a number of elementary classrooms, I was struck by how often classroom spaces resemble one another. The physical layout of these public spaces tends to fall under the same organizational standards or conventions. Teachers and students are not interacting with each other when making decisions regarding the physical layout of the classroom; the decisions are made by the teacher. Across grade levels, these classroom arrangements are remarkably similar.

Robert Propst (1974), a designer from the Herman Miller Research Corporation, puts this problem into perspective when he remarks that “Facility designers have tended to be oblivious to or unattracted by the analysis of the work and learning process and have delivered schools and
REINVENTING SPACE IN THE CLASSROOM

workplaces that are neither effective nor comfortable for real people and their dynamic affairs” (p. 86). Propst further states, “Little attention has been paid to the physical environment because of overfamiliarity with its overt characteristics but also because of the tendency of physical arrangements to static formality” (1974, p. 83). Thus, the concern I seek to address extends beyond my own classroom. I am investigating the affordances and limitations of elementary classroom environments through a study of my own school and classroom. Into this study I am adding my own alternative organizations to evaluate how these changes might influence behavior, attitudes, and creativity.

In most classroom settings, children are given a small desk, measuring roughly one foot by three feet in surface area. What makes the cut for appropriate or appealing wall decor is often solely determined by the classroom teacher. Student work that does make it on the walls is often a reflection of a preconceived idea or expectation created by the teacher, and tends to be a carbon copy of a neighboring project or assignment.

In order to understand the space with which elementary students interact, I visited a variety of classrooms in my elementary school. I took photos and noted the commonalities in their physical layout. Over time, I found my investigations of classroom spaces pushed me to look at my own classroom in a different light. I was suddenly concerned that I had started to slip into a cookie-cutter version of the classrooms found in my school. I began to wonder how my students connected with the physical environment that I had created for them. Had all of my efforts missed the mark? Was their disinterest in the environment impacting their participation in class, their attitude, and their creativity?

Although I spent countless hours of my summer vacation in my classroom, the items on the walls and the way in which every furniture piece was placed slowly began to lose meaning.
REINVENTING SPACE IN THE CLASSROOM

The purpose I had intended for all of these components seemed to dissipate. My classroom decor stared back at me, as if it had known all along that my students had little connection with it and it was patiently waiting for me to notice. It was high time to reinvent the space with which my students so often interact. I began to ask myself the same question Robert Propst presented in his research, “Would I go to this place even if I did not have to?” (1974, p. 84). Teachers are given a space in which they are to create a welcoming feeling and a positive learning experience. Breaking the expected mold and throwing out the conventional classroom setup can seem like a radical idea. However, the purpose of my research is to investigate and analyze the impact of such a change.

The main concern that led me to this area of research was the disengagement of students while in class; the disengagement that I felt was at least in part caused by a teacher-dominated physical layout of the classroom. The arrangement of the desks and chairs seemed to create a rigid environment and kept students from interacting with each other. In turn, this appeared to cause them to lose interest during lessons and learning activities. Could it be that years of the same classroom layout had caused students to become bored and disinterested in what was being presented, even if what was being presented was new and exciting? Was a teacher-designed classroom environment having an effect on their learning experience? Now it can be said that this may simply be caused by the teaching style of the teacher, however, in order to be true to my research, the changes made in the classroom were aimed solely at the environment, while maintaining the same teaching style.

Did spending long periods of time in the same unchanging space and environment cause students to be disinterested in what was being taught? For example, in the past I have put something new on the walls of my classroom when seeking to reinforce a previously taught
REINVENTING SPACE IN THE CLASSROOM

concept, or to draw interest. The item remains exciting for a short amount of time before it becomes old, outdated, irrelevant, or simply uninteresting to the students. That change then becomes the norm, and students pay little attention to it. It is important to note that this reaction could happen with any kind of classroom arrangement or decoration, whether teacher-created or student-created. However, from my observations, a redundancy in the physical layout of the classroom, created by the teacher, tends to result in students paying less attention to the information being presented. I wondered what the consequences of changing the layout were for teaching and learning. I wanted to experiment with student involvement in reinventing the physical environment with which they interact.

Response

My response to what seemed to be deeply embedded habits of school culture reflected in classroom environments, was to engage students as co-researchers, or rather participants, in a series of reflections and experiments with the classroom environment. The objective of my research was to see what would happen to student engagement and learning when teacher influence was modified by student participation in classroom environment design and layout.

I was interested in the impact of the inclusion of my students throughout my research. Joe Kincheloe and Shirley Steinberg, two leading researchers in this area, present that “students as researchers…possess a vison of ‘what could be’ and a set of skills to uncover ‘what actually is’. They further state that “students as researchers gain new ways of knowing and producing knowledge that challenge the common sense views of reality with which most individuals have grown so comfortable” (1998, p. 2). Therefore, having my students contribute to the changes that I wanted to implement in our classroom, gave me a variety of perspectives and useful feedback throughout my experience.
REINVENTING SPACE IN THE CLASSROOM

Throughout my research, I investigated the effect of the removal of traditional furniture, namely desks and chairs. My purpose was to note any differences in the behavior, attitude and learning engagement of my students before, during, and after this experiment. I refrained from removing anything else from the classroom. Wall decorations were left in place, as well as other furniture pieces, such as storage containers, cubbies, library shelves, and bulletin board displays.

My Teaching Circumstances

My circumstances are different from most art educators. I teach at the fifth-grade level and I am a French immersion teacher, thus I have two groups of students, one for each half of the day. Specialties classes such as physical education, music, library time, and art are all taught in separate classrooms. I take time to implement these disciplines in my own curriculum to create integrated and engaging lessons for my students. Seeing that I have two groups of students, who share the same learning space, both groups participated in my research.

From an art education perspective, my research deals with the artistic way in which students interact with their physical environment and the changes implemented in that space. To an extent, my students are creating their own artwork as they participate in the decisions being made about the physical layout of their learning environment, and respond accordingly.

An added circumstance that created flexibility for my research lies in the fact that the school was scheduled to be torn down at the end of the school year and be replaced with a new building. Thus, I had the freedom to make the best use of that environment without too much constraint. My students and I had an advantage and were at a liberty to play with the physical environment in which we so often interacted.
REINVENTING SPACE IN THE CLASSROOM

Methodology

Since my research study investigates the role of both teachers and students in responding to changes, gathering data, and analyzing that data, I chose action research as my methodology. Action research explores the concept of teacher-as-researcher, which encourages teachers to be collaborators in revising curriculum, improving their work environment, professionalizing teaching, and developing policy (Johnson, 1993, p. 1). My role in my classroom is that of a teacher, and also a researcher, as I seek for ways to improve the learning experience of my students and make changes to match their needs. To clarify, Karen Keifer-Boyd (as cited in Buffington & McKay, 2013) states “Action researchers use what they learn to better understand or improve…education practice or to solve a particular problem in an authentic setting” (p. 246).

Stephen Kemmis and Mervyn Wilkinson (as cited in Atweh, Kemmis & Weeks, 1998) explain that action research methodology follows several steps that researchers cycle through for the duration of their research. It begins with being faced with a problem, planning a change, followed by acting and observing the consequence and process of the change, then reflecting on these processes and consequences, and finally re-planning, and so forth (p. 21). The process is therefore cyclical and recursive. In my research, I am faced with a problem and I present a potential solution, or change, to address that problem. The experiment I undertake in my classroom is then guided by the consequences of such changes, and further decisions are made to inform my research. Thus, the cycle continues throughout the research, and can even continue beyond the results presented in future chapters.

Furthermore, students play an important role in action research, as they are key participants within it. The changes I make in my classroom directly affect my students, and their
actions and responses are part of the data collected. Thus, action research is most appropriate for my methodology as a teacher-researcher.

**The Research**

To explore the impact of environmental changes on student engagement and learning, I removed the desks and chairs from my classroom. Students interacted with the new environment for several months and I gathered data through observations and journaling. Surveys were also given and gathered to further inform my research. The only change made to my classroom was the complete removal of all desks and chairs. All other items and furniture remained the same throughout the research experience. My investigation and analysis focused on the impact of such a change. I specifically focused my research on student engagement, motivation to work, attitude in class, and culture of the class as a whole.
This review of literature will discuss the topics of learning environments and student engagement within the field of education. There will also be a section discussing the Reggio Emilia School and its work involving children and space.

The Learning Environment

Harold M. Proshansky (1974) from the City University of New York stated, “The physical environment refers to the complexity that constitutes any physical setting in which men live, interact, and engage in activities for either brief or extended periods. It is the system of instrumental objects and life-supporting conditions organized in space and time to support and mediate the behavior and experience of the individual alone and in relation to other individuals” (p. 16). Specifically in application to schools, whether individuals spend an extended or brief amount of time in a given environment, that environment is expected to be instrumental in the growth of its learners. The physical layout and organization of items are expected to be conducive to a positive learning experience. The learning environment is not only impacted by organization of space and time, but also by its physical items. These items help make social and communication statements (Propst, 1974, p. 87). The physical items present within a learning environment can have an impact on the events that happen there.

Proshansky (1974) further expressed, “Individuals use, respond to, experience, and do things to settings because of what they see, have learned, and would like to achieve in them” (p. 17). The physical setting of a learning environment can play an important role in how individuals participate and experience learning. This is particularly important within the field of education, as teachers and students interact in their given learning environment, or classroom, for long periods of time. I spent part of the start of my research taking photographs of a variety of
REINVENTING SPACE IN THE CLASSROOM
classrooms at the elementary education level. As I analyzed these photographs I was struck by
the potential connection between the physical layout of classrooms and student engagement.

Based on my observations of said classrooms, it seems that learning environments in
school settings are generally designed and created based on habitual practices which have been
present in education for a long period of time. The placement of furniture and classroom décor
are surprisingly similar from classroom to classroom, and deeply embedded habits in this area
could potentially be a hindrance to student engagement and their learning experience. In many
instances, students sit in rows, facing the front of classroom. Propst (1974) affirms such
speculation in the following: “We have refused to accept people and work as part of the natural
appearance of a workplace. Rather we have labored under the delusion that the only time… a
school looks ‘good’ is when all signs of work underway and the people engaged in that work
have somehow been concealed from view” (p. 89). Rather than having students be an active part
of the learning environment, the habitual practices mentioned above seem to make it so that
students blend in with their surroundings and disappear from view, thus dispelling their
important roles as active and engaged learners. Students should be coming to school knowing
that they will be a part of something of consequence, that their input is valued, and that their
participation is essential to the learning environment (Propst, 1974, p. 83). Their engagement is
just as important as the physical items in a learning environment.

Understanding use of space is important when discussing why one would want to make
changes to the learning environment students interact in and with. In classrooms, students
interact with very specific spaces, and these spaces can play an important role in how they learn.
“The organization and design of a physical place can provide people with choices and enhance
their experience in it” (McFee & Degge, 1977, p. 215). Consequently, changes made to a
learning environment can change the way in which students experience learning, and, according to McFee & Degge, even make that experience more effective and more enjoyable.

It may be difficult for an educator to make changes to a learning environment as they are given a certain amount of space with specific boundaries. However, “a lively manipulation of the work environment can support the uniqueness and variety of both the individual worker and the tasks he performs” (Propst, 1974, p. 86). Disrupting or making changes to a learning environment can create opportunities for all learners to participate in the learning experience in a variety of ways. A learning environment can either hinder or facilitate the way in which students access information. Accepting that children have different learning, social, and movement styles (Fitt, 1974) and stepping out of the norm may provide a way for all kinds of learners to access presented information more easily. Even more than accessing presented information may be the opportunity to interact with peers, apply information, and construct mental or physical models related to the information.

Michael Fullan, a leading scholar in organizational change, speaks to the positive impact of challenging norms and implementing change. “Schools are beginning to discover that new ideas, knowledge creation, and sharing are essential to solving learning problems in a rapidly changing society” (2001, p. xi). Although change can be difficult to implement, Fullan (1982) addresses teachers specifically when outlining its benefits. He expresses that “most changes worth their [teachers] salt involve some significant alterations in what teachers do and think…Good change processes which foster sustained professional development and lead to student benefits may be one of the few sources of revitalization and satisfaction left for teachers (pp. 118-119). Therefore, according to Michael Fullan, although change can be difficult, it can
REINVENTING SPACE IN THE CLASSROOM

also have a positive impact in the field of education and can create beneficial situations for both teachers and students.

While exploring the physical environment of classrooms, the impact of movement and flexibility came to the forefront. Paul Curtis and Roger Smith co-authored the article “A Child’s Exploration of Space”. They discuss the many ways in which they designed and built environments suitable to active children. A concern that they faced was the already present expectations that teachers and administrators have towards classrooms and learning spaces. Striving to create environments in which all learners could benefit, Curtis and Smith stated,

In building our first environment, we tried to break away from the concept that the classroom had to contain tables and chairs, a teacher’s desk, and a blackboard. To us, this furniture has no true versatility. It is simply a set of convenient devices to sit at, or to write on. We believe children need room to move, to develop their capacity for exploring, experimenting, and discovering. The traditional classroom does not provide for this important self-developmental initiative. (1947, p. 146)

The further Curtis and Smith delved into this issue, the more they learned what features mattered the most in learning spaces. This is what led me to think of the importance and use of desks and chairs, or rather, what the outcomes would be if they were removed. After designing and building several environments, Curtis and Smith concluded, “We must stop playing safe, doing only the things we know or think we know work, and begin to take some risks” (1974, p. 153).

In addressing physical learning spaces, Lella Gandini expresses that “creativity is not just the quality of thinking of each individual; it is also an interactive, relational, and social project” (2005, p. 171). Implementing a social and interactive approach to the learning environment, teachers can create a space in which individual contribution is encouraged. An open space may
allow for students to foster a positive social interaction with their teacher, their peers, and their surroundings. I feel that when students move freely about, are given a variety of spaces in a classroom, and most importantly take part in the creation and manipulation of the physical environment, then they realize that their input is valued and in turn they have a stronger sense of contribution and creativity.

Several challenges arise when discussing physical layouts of classrooms and how they should be manipulated. The following quotes illustrate these challenges in some of the best ways I have found in my research. To begin, June King McFee and Rogena M. Degge (1977) discuss the difficulty in bringing about change,

*The organization and design of a physical place can provide people with choices and enhance their experience in it. But people come to a place with predeveloped attitudes and abilities to see, think, and feel, which influence what their experience will be in relation to that place at that particular time* (p. 215).

Students enter elementary school classrooms with an already formed opinion of how things should look, simply because that is what they are used to seeing and being a part of. A teacher wanting to change the physical environment would be faced with the need to also address the concern that students may feel uncomfortable, or may simply not respond in the desired way. Specific layouts have been designed and students have been conditioned to act a certain way within those spaces. Thus, introducing a new layout could potentially trouble the ways to which students have become accustomed. We return to Gandini et al. (2005),

*Why is it so hard for adults to use divergent thinking? Primarily because convergent thinking is convenient, but also because changing your mind often represents a loss of power. Children, on the other hand, search for power by changing their minds, in the*
honesty that they have toward ideas and toward others, in the honesty of their listening. But (unfortunately) they quickly understand that having ideas that diverge from those of their teachers or their parents, and expressing them at the wrong moment, is not considered a positive thing. So it is not creative thinking that dies but the legitimization of the creativity of thinking (p. 171).

Gandini clearly states that changing a physical environment is not only challenging for the students but also for the adults responsible for their education. It appears that both students and teachers have been conditioned to act a certain way in a given environment and to approach learning environments in specific ways due to the common ways in which they are presented and created. Thus, it is important for teachers to actively scrutinize standard procedures within the classroom when it comes to making decisions regarding learning environments. Where and how one is able to engage with space matters.

Much of my research concerning learning environments led me to the 1970s. This time period was an important turning point in the history of education as many educational acts were passed. For example, in 1974 the Equal Educational Opportunities is passed. The following year the Education of All Handicapped Children Act is passed and the National Association of Bilingual Education is founded. Many changes were being implemented in the education system in order to provide fair and equal education for all students. Along with creating equal opportunities for all, a new concept was brought at the forefront of education, that of built environments, which refers to the physical layout of a learning environment, in my case, a classroom.

Frank D. Susi (1999) of the Kent State University provides an explanation of the impact of built environments on learning. He expresses that
A multitude of physical space factors affect both teacher and student perceptions, expectations and behavior patterns in…classrooms. The size, shape, and layout of the room, the types of furniture available, and the locations of fixed and movable features occupy a central position in the educational milieu. While often overlooked by busy teachers, these contextual parts…influence instructional practices and affect the work and behavior patterns of students. (as cited in Guilfoil & Sandler, p. 126)

This provides clarity for the purpose of my research in analyzing the impact of changing the built environment that students are often used to. My goal is to note the potential impact of implementing a drastic change in what has become normal for my students.

**Student Engagement**

In his article Children Are Sensitive to Space, John Holt (1974) argued that, “We would have to worry a lot less in our schools about “motivating” children, about finding ways to make good things happen if we would just provide more spaces in which good things could happen” (p. 144). In other words, a learning space, or a learning environment could potentially have a strong impact on student engagement. Creating spaces that foster positive experiences could motivate children and increase their desire to participate and take part in what is presented. Many teachers with whom I have interacted have expressed concerns about student participation, so the desire to increase student engagement seems to be a real concern for current schoolteachers.

Supporting this supposition, Mantz Yorke (as cited in Bryson, 2014) asserts, “Student engagement has always been an issue in…education, but only latterly has it gained prominence in the discourse on teaching and learning” (p. xvi). Allowing students to take part in the changes of the learning environment can further increase their desire to participate in class.
REINVENTING SPACE IN THE CLASSROOM

Daniel H. Pink (2009), an author in topics such as work, management, and behavioral science, speaks of effective ways to motivate learners. In his book *Drive: The Surprising Truth About What Motivates Us*, Pink presents several ways in which parents and teachers can help children increase their motivation to learn. One specific recommendation he makes is to give the students the opportunity to become teachers and help make decisions in the classroom. Students’ active participation should guide the teaching that occurs in the classroom. “A classroom of teachers is a classroom of learners” (Pink, p. 196). Applying this to the learning environment suggests that allowing students to participate in the alteration or redesign of their learning environment could possibly increase their engagement within that environment. They will think like teachers in their own space. John Holt asserts that the right kind of learning space can create participation and activity in the classroom (1974, p. 141), which is the aim of many teachers. Alison Clark (2010) reinforces this by expressing that “bringing young children into the frame raises their status from an often invisible object of design to an active, visible presence” (p. 3). In considering changes to the learning environment, student engagement is critical as they are as much a part of the space as is the furniture.

**Reggio Emilia**

Reggio Emilia is a small Italian city whose educational approach and system have drawn the attention of many educators and become an example for many schools around the world. The first schools in that area were started by parents who wanted their children to experience education in a manner more meaningful and successful than their own. Reggio Emilia schools use artistic expression, projects of all lengths and types, and engaging learning environments to establish effective teaching and learning experiences (McNally & Slutsky, 2016, p. 1925).
REINVENTING SPACE IN THE CLASSROOM

The Reggio Emilia approach concentrates on making the learner the center of all planning and teaching situations. There are several basic principles that inspired the experience in Reggio Emilia: the image of the child, the role of parents, the role of space, teachers as partners, the power of documentation, the many languages of children, and the interdependence of cooperation and organization (Gandini, 1997, p. 16). Focusing on preschool and elementary school-aged children, the founders taught that children were born with one hundred languages with which they could communicate. The goal of their new approach was to value these languages and provide authentic situations in which students could express themselves comfortably. Reggio Emilia schools are directed towards the implementation and use of art because this is one of the most flexible ways in which students can communicate: painting, drawing, drama, etc.

Physical space and the learning environment played a vital role in Reggio Emilia schools, as highlighted by Gandini (1997),

The layout of physical space in addition to welcoming whoever enters the schools, fosters encounters, communication, and relationships. The arrangement of structures, objects, and activities encourages choices, problem solving, and discoveries in the process of learning...But the environment is not just beautiful--it is highly personal (p. 18).

Walking through the learning spaces in these schools, one can easily notice the impact of student-directed discussions and student creativity. Students are encouraged to explore, experience, question, and play. Perhaps what stands out the most within a Reggio Emilia school, is the fact that student work is not confined to an “art space”. Their artwork spills out beyond that space and becomes an integral part of the learning environment.
REINVENTING SPACE IN THE CLASSROOM

Children are naturally drawn to play and create, whether alone or with peers. A learning environment in which these desires are met is ideal for student engagement and excitement. Reggio Emilia schools emphasize a flexible environment because their teaching philosophy places children at the forefront of learning. Teachers in these settings do not plan lessons to be taught to the masses, rather teachers work with students to take the curriculum in a direction most suited to the students, a curriculum which is very much determined by the students themselves. Forcing content on students causes them to quickly lose interest and fail to see real world applications. On the other hand, as students create the curriculum, they are addressing what concerns them and what they are in direct contact with in the real world. Under the established principle of the Image of the Child, Fran Donovan (1977), an early childhood education consultant and museum educator, emphasizes this truth beautifully,

Each of us has within us an image of the child that determines how we relate to children and how we make decisions affecting children. In Reggio, the child is described as capable, powerful, intelligent, and curious. Each child is considered a researcher, explorer, and investigator. Children are respected as unique individuals full of strengths and potential inherently possessing many rights (p. 182).

Reggio Emilia schools create learning environments that are friendly and very much handled by the students, creating a positive and focused attitude towards learning.

The physical layout of Reggio Emilia schools can be interpreted on many levels. Donovan (1997) for example, states that “Reggio is a place to be inspired by, not a place to imitate” (p. 182). Teachers are not expected to make cookie cutter copies of classroom layouts that seem fun or appealing in hopes of raising student engagement. Each classroom will vary based on the needs of students, and the responses of said students. Charles Schwall (2005), co-
REINVENTING SPACE IN THE CLASSROOM

author of the book *In the Spirit of the Studio*, was an art educator who was determined to create a better physical environment for his students. He and his co-workers explored the possibilities of implementing teaching practices and environment manipulation as seen in Reggio Emilia schools. They worked hard to transform their learning space, which was located in the basement of a church building in St. Louis, Missouri. With the limited resources they had, they began by simply opening up the space and fostering non-reclusive areas. They focused on building an atelier, “a workshop for children’s ideas that manifest through the use of many materials” (Schwall, 2005, p. 17). Shelving was introduced, filled with bins and baskets of trinkets and art supplies, allowing for a commonly used space for materials. The placement of the shelving was strategic in that it was inviting and central to the physical environment.

As stated earlier, it is sometimes difficult for teachers to become flexible with the little space they are given. Schwall (2005) notes that, “The ways in which children invent with materials are often unexpected and surprising; therefore, it is important for the adults who work with children to adopt an attitude of freedom and open-ended possibility toward the children’s work” (p. 17). It is thus important to understand that when a change in the environment occurs, a change in attitude is necessary. One cannot maintain control over what children are learning if they desire a free and flexible environment. To give students space and material also entails handing learning responsibility over to them, at least some of the learning responsibility. This could be implemented as a reflection of the Reggio Emilia schools, as in this environment students become partners in their learning. It would become even easier to value everything they naturally bring to the table as they would play a large role in creating the curriculum. In speaking of the physical environment that Schwall (2005) and his co-teachers were able to create, he says, “It is a symphony of individual parts balanced to create a whole that is diverse and stimulating
but also amiable and harmonious; a multisensorial place that invites interactions by engaging the mind, hands, imagination, and senses” (p. 20). Flexible spaces all have a common purpose, to encourage creativity and freedom in learning, sometimes depending on where furniture may be placed.

Conclusion

After reviewing the literature surrounding learning environments, there is much support for the impact that it has on student engagement and positive learning experiences. The Reggio Emilia School is a good example of what can happen in a classroom when its physical layout is transformed and is also flexible. Rather than creating a carbon copy of what I have found in the layout of Reggio Emilia schools, I am drawing from the research surrounding its impact to inform my decisions pertaining to the physical layout of my own classroom. The purpose of my research is to analyze the implementation of a different classroom learning environment by removing some of its components, namely its desks and chairs. I am looking to find if such layout changes in a classroom can create a motivating environment and in turn increase student engagement in my classroom.
Chapter 3: Methodology

Theoretical Framework

My teaching style and my interactions with my students are guided by my theoretical framework of teaching and learning, which has developed and been modified by my experiences as a teacher over several years. As a teacher, I am faced with the challenge to reach all students, to ensure that they are all engaged and participating, and to guarantee that they are learning and internalizing the material being presented. My students have a more positive experience when I take into account their feedback on the changes that need to happen in our classroom. My classroom is a very collaborative place, and I value the input that my students give me (Steinberg & Kincheloe, 1998, p. 2). In my classroom, I believe that all of my students have a right to participate in what is being taught and in how it is being presented. I believe that my students should have a say in the decisions that are made pertaining to our classroom, the events that take place within it, as well as what they are learning. School is more interesting for students when they are invited to be actively engaged in positive learning experiences (Pink, 2009, p. 196).

The space that I am given as a teacher, the physical boundaries that outline my classroom, the furniture that is made available, and all of the materials that are offered are as much my students’ as they are mine. As noted in previous chapters, I believe that learning is more engaging and more effective when my students play an important role in interacting with their environment, rather than sitting as passive listeners as I lecture them. They connect with information more easily if they are able to manipulate it, and discuss it with their peers. Thus, collaboration plays an important role in my classroom as well.

Finally, I believe that change is good. Change is what pushes me and my students to look at situations in a different light and to approach information using a variety of perspectives. Such
REINVENTING SPACE IN THE CLASSROOM

approaches provide for learning that is enticing and interesting for my students. It also aids me in my desire to improve as a teacher and to create the best learning environment for my students. Change can sometimes be difficult, but it often helps me to create the best situation possible for my students as learners and active participants in my classroom (Fullan, 1982, p. 119)

Selecting Action Research

As stated above, my teaching experiences have led me to see and treat my students as collaborators in our classroom. The important role students play, the use of the learning environment, and the desire for positive change and improvement are essential elements in my research. The use of action research as my methodology is most appropriate as it reflects my teaching approach well and it is this methodology that best supports the use of my students throughout my research experience. Richard Sagor (2000) explains action research methodology best by expressing that

Practitioners who engage in action research inevitably find it to be an empowering experience. Action research has this positive effect for many reasons. Obviously, the most important is that action research is always relevant to the participants. Relevance is guaranteed because the focus of each research project is determined by the researchers, who are also the primary consumers of the findings. (p. 3)

From this we find that action research methodology is not a generalizable approach and can be applied to a variety of research experiences. The decisions in the research are made by its participants, which is an important concept as they are directly impacted by these decisions.

As a teacher, I seek for ways to improve the learning experiences of my students and create the most positive learning environment that I can. Sagor (2000) frames my goals as a teacher perfectly when he states,
Perhaps even more important is the fact that action research helps educators to be more effective at what they care most about—their teaching and the development of their students. Seeing students grow is probably the greatest joy educators can experience. When researchers have convincing evidence that their work has made a real difference in their students’ lives, the countless hours and endless efforts of teaching seem worthwhile.

(p. 2)

An overview of Action Research

Historically speaking, action research was first introduced around 1950 by Kurt Lewin. His focus was empowerment and change in social situations. Since the 1970s, action research has entered the realm of education. There are many texts on using action research in education (Keifer-Boyd, 2013, as cited in Buffington & McKay, p. 246). Action research begins with a problem. I noticed that most of the elementary classrooms, certainly the ones I visited, were incredibly similar to each other. The problem is then followed by the desire to make a change and improve a given situation. For example, I worried my classroom environment might be limiting my students’ learning. A solution is proposed, planned out, and enacted. I began to redesign the classroom by removing the desks and then asking students to rethink their learning environment. Finally, data is gathered based on the reaction of the participants, including the reaction of the teacher. Further changes can be made based off of the data gathered. These results will be further discussed in the following chapter. Kemmis and McTaggart, (as cited in Thornton, 2013) define action research as being “characterised in spiraling cycles of problem identification, systematic data collection, reflection, analysis, data driven action taken, and, finally, problem re-definition” (p. 119). Thus, action research is cyclical rather than linear.
Kemmis and McTaggart further define action research as “deliberate, solution oriented investigation that is group or personally owned and conducted” (as cited in Thornton, 2013, p. 199). Action research is therefore well suited for the elementary school teacher as an investigation into how to improve the learning environment and the learning experience of a classroom while gathering data from a group of individuals.

An important aspect in action research is the roles that each participant plays. Keifer-Boyd (2013, as cited in Buffington & McKay) explains these roles as follows,

A researcher’s role in action research is commonly that of participant or participant-observer who inquires into and plans an action to change a teaching situation, and shares critical insights from those experiences, reflections, and actions. A participant researcher is fully involved in the activity under study and critically reflects for a self-study. A participant-observer involves recording and reflecting on observations and interactions in which the participant-observer’s role is frequently a part of the situation. (p. 247)

In my research, I take on the approach of both a participant and a participant-observer. As I made changes to my classroom environment, I was participating in those changes and analyzing how my teaching was affected. Being a participant, the data I gathered was self-reflective. In addition to being a participant, I also acted as a participant-observer. I was in a position where I recorded observations and gathered data based on student behavior and participation, and then analyzed and reflected on that data. Furthermore, my students were impacted by directing some of the aspects of the action research cycle as they provided key feedback to the change implemented. They were able to respond to the changes made to the physical layout of the classroom and those responses were used to inform my research. Action research is thus a fitting methodology for my
REINVENTING SPACE IN THE CLASSROOM

research in attempting to improve learning through an investigating about the classroom environment.

Reason and Bradbury (2008) assert, “Action research activities are usually driven by personal commitments to contribute to human flourishing, and these commitments are informed by intellectual orientation… There is a wholeness about action research practice so that knowledge is always gained in and through action” (p. 11). My research is based on a very personal desire to improve the learning environment for my students, and in turn improve their learning experience. Data gathered throughout an action research project builds on previous data, and as more data is gathered, it is continually used to build on past knowledge. Action research is a methodology that can be used again and again until the perfect solution is found, or it can simply be used again and again to present new and different solutions. This can prove to be especially helpful in the classroom as teachers are striving to find ways to improve their teaching as well as the experiences of their students.

Action Research and the Elementary Teacher

Action research methodology greatly favors the teacher as a researcher, as opposed to an outside researcher coming into a classroom to do the research. Through this research approach, the teacher is placed at the forefront of the research, and data is also gathered and analyzed by the teacher. The teacher as a researcher is an important concept as teachers are the ones who interact with the students and the environment in which they are placed throughout the entire learning experience within that environment. It is different for a teacher to gather data than it is for an outsider to observe a classroom. “Of course, formal [action] research occupies an important place in the field of education… [it] allows teachers to pursue critical inquiry to activate change, on their own terms” (Johnson, 1993, p. 1). The teacher takes charge of the
REINVENTING SPACE IN THE CLASSROOM

research process and is able to make personalized changes in his or her own classroom. The decisions and choices that guide the research are specific to the teacher, students, and classroom involved. Action research methodology is important to the elementary teacher as it is specific to the teacher involved in the research. For example, action research resonates with my teaching because it allows me to notice a problem in my surroundings, present a solution, and then gather data based off of the reactions to the solution. It is the perfect fit in the classroom, as I am constantly seeking for ways to improve myself as a teacher. “Action research, thus, is a reflective and iterative inquiry process with the aim of improving strategies, practices, and knowledge of the environments within which one teaches” (Kiefer-Boyd, as cited in Thornton, 2013, p. 246).

Action research is a methodology that uses a social approach. Stephen Kemmis and Mervyn Wilkinson (1998) present six key features to action research, one of which is the aspect of it being an inherently social process. In the same article, they discuss the importance of action research being participatory. Every individual taking part in the research has something to offer to the data and results. These two points are especially helpful in an elementary school classroom. Through action research, students are invited to give personal and relevant feedback in order to guide the research. Their input is valued, as well as their active participation (as cited in Bill Atweh, Stephen Kemmis & Patricia Weeks, 1998, p. 23).

Data Collection

For my research study I used a variety of data collection techniques, including photography, video, journaling, field notes, interviews, and surveys. A majority of the gathered data comes from the photos taken and the surveys my students responded to. I took photos throughout the research process to inform my study, and these also guided further decisions
REINVENTING SPACE IN THE CLASSROOM

pertaining to the learning environment of my classroom. These strategies are typical in an action research project.

Student feedback was crucial to my research as they were interacting directly with the changes made to the physical layout in our classroom. I was interested in their perceptions of the new environment and how it aided in their learning, or possibly impeded. Throughout the research I journaled my own feelings pertaining to the learning environment, and recorded the observations I made of my students. This provided for multiple perspectives in my data.

The analysis of my data will be outlined in several sections in the following chapter. I will focus on the impact the new learning environment had on student engagement, on motivation, on attitude, and on class culture. Student surveys were given in order to gain an understanding of student reaction to the environment.
Chapter 4: Results

In this chapter I will present the experiences and responses of both my students and myself concerning the changes made to the physical layout of our classroom, while referring back to the action research methodology which guided my experience. I will describe the process and the results that stemmed from student and teacher interaction with the new learning environment. Seeing that action research methodology is a cyclical way of collecting data and analyzing it, I will outline its impact on my research throughout this chapter.

First, I will introduce and present my interest in learning environments and the steps taken at the start of my research. I will then outline student ideas regarding the physical layout of classrooms through a brief breakdown of their expectations and ideal learning environment which were shared with me in sketches. These sketches were only seen by myself and helped inform future decisions made towards the learning environment of our classroom. They were not analyzed beyond that point; however, they guided me in my choice to alter the physical layout of our classroom. I will then outline the details concerning the changes made to the physical layout of the learning environment students were used to interacting with. These will be illustrated through a series of photographs.

Finally, I will present several sections detailing student responses to the changes made to our classroom, which they shared through surveys and detailed sketches, much like those at the start of the research process. I will also share the stories of three students who I felt had meaningful learning experiences following the implementation of the new physical layout of our classroom. Pseudonyms have been used in place of real names.
REINVENTING SPACE IN THE CLASSROOM

Personal Observations on Learning Environments

My research began with an investigation of learning environments in my own elementary school. My curiosity about the physical layout of classrooms led me to create a photographic journal of the classrooms in my school building. Whilst students were out of the classrooms, I toured the school building and took photos of classrooms at all grade levels. My desire was to focus solely on the physical layout of the classroom. What items were present? What items were not? Was there a pattern across the grade levels? What was most prominent in the classrooms?

![Figure 1. Photograph of a fifth-grade classroom](image)

My findings reflected my expectations in that many of the physical layouts resembled one another. Desks and chairs were often arranged in a manner where they were facing the front of the room, and were placed either in rows or small groups. The whiteboard and the projector were front and center in the classroom, and the teacher spent most of their teaching time in that same area. The teacher’s desk was often found at the front of the room as well.
These observations led me to specify my inquiry and focus specifically on the impact of desk arrangement on student engagement and learning. Could there be a connection between the learning environment, the physical layout of the classroom, and student participation and attitude?
REINVENTING SPACE IN THE CLASSROOM

As I continued my investigation, I came to notice that my own classroom fell under the same arrangement criteria that stood out to me while touring my colleagues’ classrooms. This led me to question the purpose of my classroom’s physical layout and the effect that it was having on my students.

Figure 4. Photograph of my fifth-grade classroom

The first step taken in my research was an inquiry concerning learning environments. Beginning with a meaningful problem and brainstorming for the possible implementation of a solution, is a characteristic of action research methodology. Kemmis and McTaggart (as cited in Thornton, 2013) define the first step in action research as being “characterised in…problem identification” (p. 119). The static and uniform physical classroom layout appeared to be a problem in the learning environments in my school, and in my own classroom, and I desired to present a solution in order to improve the learning experience of my students and improve myself as an educator.
Student Classroom Designs

Before making any initial changes to the physical layout of our classroom, I asked my students to design their perfect learning environment. Without further or more specific instructions, they were given a sheet of paper and a pencil. Students were simply to draw their ideal classroom and label its parts. I wanted to introduce the concept of a learning space and see if my students had any preconceived expectations regarding learning environments. I steered away from giving them any suggestions or instructions concerning the shape or size of the classroom, those aspects were entirely up to them (although many of them chose to design a classroom based on the shape of their current classroom). I wanted all of the decisions pertaining to their design to be their own, whether or not they were based on personal experiences with their current learning environment and past ones. This led to very open interpretations on their part. Notice that many of their designs are labeled in French, due to the fact that these are French immersion classes. However, many words are similar to the English translation, and meaning is easily deduced from their sketches.

Rather than have my students simply write out what their ideal learning environment would look like, I decided to have them create a detailed sketch so that I could understand their thought process in a different light. Al Hurwitz and Michael Day (1995), co-authors of the book *Children and Their Art*, discuss the importance of artistic representations of thoughts for children. “For children, art is a means to engage all of their senses for learning and expression” They further express, “Art helps children order their sense impressions and provides a means for them to express imagination and feelings” (p. 87). This approach gave my students an opportunity to create an imaginative visual representation of their ideas. I wanted to understand the thoughts of my students as much as possible, and providing them with the opportunity to
draw, led them to share their ideas in a way that may have proved more effective than simply writing. This gave me clear and analyzable data for my research.

While my students were creating their ideal learning environment, I paid attention to the approach they were taking. I noticed that they were deeply involved in the process and were very excited to include what mattered to them. As Hurwitz and Day (1995) put it, “As we watch children draw or paint, we are often struck by their concentration and involvement in what they are doing” (p. 88). In my journal, I recorded several observations about how students started out with very plain designs and then began to share with peers what they were including. Although I would have preferred to have them sketch out their own ideas, I let this happen out of curiosity. It was fascinating to see how deeply involved they were with their sketches.

Since there were no boundaries regarding their choices, many students took the liberty to add quite a few extravagant components to their classroom. Hot tubs, pools, trampolines, movie

Figure 5. Student sketch of ideal classroom #1
theatres, luxury armchairs, animals, vending machines, and unicorns were some of the things included in their designs. As they designed, they shared with their peers, and these seemingly random ideas quickly spread among the students. At first, I was bothered by the silliness of some of these ideas; however, I kept from interfering as I did not want to alter their ideal physical space to match my expectations.

Obviously, none of the extravagant items included in their sketches were present in their current classroom, and it would prove quite difficult to have them become a part of our learning environment; in particular, a pet unicorn. However, the classroom designs my students created made me question the impact that their choices and input could possibly have on their learning
experiences. How might the inclusion of some of their opinions make school a more enjoyable place for them? How might their attitude and participation improve if they were given the chance to engage in the design of their classroom? I felt as though I had tapped into an important resource that could aid in guiding my decisions about the learning environment: the opinions of my students. Wilson & Wilson (as cited in Hurwitz & Day, 1995) assert that, “to understand himself or herself or his or her environment, the child makes drawings that serve as models for how things might be. Thus the drawings can provide a means for constructing, testing, and prophesying what can be” (p. 90). Allowing for my students to include what they desired aided me in making further decisions about the physical layout of our classroom. As stated in the quote above, students were constructing, testing, and imagining what could be possible in their learning environment.

As I looked through the designs that my students created, my eyes were often drawn to the seating arrangements they had included. A handful of students focused on the fact that they needed more comfortable seating in their ideal classroom. However, much like in the
photographs I had taken around my school building, the seating arrangements in their drawings resembled one another. Even though my students had the option to make it however they wanted, they often stuck to what they had been used to for several years. In their sketches, desks were in groups or rows, facing the front of the room. The teacher’s desk was at the front of the room, and spaces were clearly marked out. Even the shape of the classroom itself reflected their current situation.

Figure 8. Student sketch of ideal classroom #4
I had expected more students to present a more flexible seating arrangement. This goes back to the thoughts I presented in Chapter 1 on deeply embedded habits in classrooms regarding the physical layout. My research question became more specified as I made plans to alter the physical layout of my classroom. I was cycling through the action research methodology by reframing my inquiry concerning learning environments. With new data and information at hand, I came to the conclusion that I would alter the physical layout which my students were so used to working in and interacting with. Then, I would gather new data to analyze the impact of such a change on the engagement, motivation, attitude, of my students, as well as the culture of the class as a whole.

![Student sketch of ideal classroom #5](image)

Figure 9. Student sketch of ideal classroom #5
REINVENTING SPACE IN THE CLASSROOM

Altering the Physical Layout

My particular interest in the physical layout of classrooms led me to make the decision to change our learning environment drastically. I decided to remove all of the desks and chairs from my classroom. The desks and chairs were stored in small workrooms connected to the sides of our classroom. Students still had full access to the desks and chairs, and were welcome to use them whenever they felt necessary. However, students chose not to use them very often, so the desks and chairs remained in the workrooms for the majority of the experience.

Upon first entering the new physical layout of the classroom, students vocalized several questions and concerns regarding the change:

“Is it going to stay like this forever?”

“Why did you do this?”

“Oh! Are we doing something fun today?”

I found it interesting that they were caught off guard and expected that the change would not last long. Based on their questions, I felt that they perceived such a big change as a one-time event,
since it was so out of the ordinary. I chose to commit to this change for a long period of time and shared that decision with my students. Upon learning that the change was a more permanent one, students were suddenly very excited. There was definitely an immediate change in participation and attitude for both my students and myself. The change had piqued their interest and in turn, I felt a stronger motivation to create meaningful learning experiences for my students. My motivation towards my teaching had increased. I was also excited about the sudden engagement on my students’ part and recorded my observations on the first day:

“I’m not sure if there is a direct connection to the new layout, but I feel happier. The freedom to move around my classroom is fantastic, it’s such a big place! I love the freedom it gives my students to use more space. I feel better about teaching and I feel more positive. The open area forces me to let my students work independently sooner than usual because I want them to use the new space as soon as possible.”

Figure 11. Our classroom space without chairs or desks (2)
I was anxious to see what would happen over an extended period of time. As time went by, I noted the interactions that my students were having with each other and with our new learning environment.

**Student Interaction with the New Environment**

A classroom without desks and chairs presented a few matters of concern for my students. There was a need for them to be able to write on a hard surface, so they came to the conclusion that clipboards needed to be made available to them. Their personal items, such as writing utensils, planners, paper, and notebooks needed storing, so they were placed in assigned cubbies. Once all concerns were addressed, students were then free to work in any area of their choice. It seemed that they were going through their own smaller version of an action research project as they found solutions to newly presented issues.

Figure 12. Students working in the new physical layout of the classroom (1)
Figure 13. Students working in the new physical layout of the classroom (2)

Figure 14. Students working in the new physical layout of the classroom (3)
While core instruction was taking place, students agreed to sit close to wherever I was teaching in order to pay close attention to important concepts. As soon as they were working independently, whether in groups or alone, they were allowed to move freely around the classroom and find a space in which to work. This allowed them to collaborate with their peers easily and I sensed an increase in the level of comfort in our classroom. Students appeared to be more at ease around each other and in their interactions with me. Many students expressed this increase in comfort in their survey responses, which will be outlined in the following section.

Similar research has been done surrounding the impact of different physical layouts in the classroom. Recently, a team of Steelcase Education Researchers, in collaboration with academic researchers in Canada and the US, conducted an experiment in four universities. This group of researchers expressed their concern about learning environments and how little attention has been paid to their impact on student engagement and learning. “The success of any student is influenced by many variables. Academic studies have investigated several of them, from socioeconomic background to internal motivation to the influence of different teaching styles. Still often overlooked or underemphasized is the role of classroom design” (Webber, Strickland, & Kapitula, 2017). Their approach was similar to mine as they were seeking out whether or not the physical layout of a classroom would impact factors such as active involvement, collaboration, focus, etc. The implementation of the newly formed learning environment was simply put in place, without consulting the students, and without providing training for participating faculty members. The intent was simply to put in place a new learning environment, and then gather data and feedback related to its impact on teachers as well as student learning.

This team of researchers narrowed their findings down to two key points: active learning classrooms have a positive impact on student engagement, and intentionally designed spaces
REINVENTING SPACE IN THE CLASSROOM provides for more effective teaching and learning. Much of my research reflects these two findings and supports the claim that the physical layout of a classroom can indeed impact student engagement, motivation, attitude, and the overall culture of the class.

**Student Survey Responses**

After a few months of interacting in the new physical layout of our classroom, students were given written surveys to respond to containing questions about the physical layout of our classroom before and after the implemented change (see Appendix 4 Student Survey). The surveys asked students to answer questions concerning the level of their engagement in class throughout their interaction with the new physical layout of the classroom. Along with this key concept were questions in relation to their motivation, their attitude in class, as well as their feelings towards the class culture as a whole. These questions developed from my initial inquiry to discover if altering the physical layout of my classroom would impact student engagement.

**Engagement.** Student engagement pertains to the level at which students participate in class. Teachers are often looking for a variety of ways for students to make connections with the material being taught, and to aid them in staying interested throughout a lesson. After a change in the environment, many students in my classroom felt that their level of engagement had increased over time. As one student put it, “I think that since we don’t have desks anymore it’s more fun, so that makes me want to come to school more.” Another student said, “I think it has improved because when we did projects… we sat in a large circle and we did the project together.” Having a large open space created a collaborative environment for the students and they felt more involved in the activities in which they took part. These responses were similar to those found in the research conducted by the Steelcase Education Researchers Webber, Strickland, & Kapitula, 2017).
REINVENTING SPACE IN THE CLASSROOM

Motivation. In many instances, students felt that the change in the environment did not have a direct correlation to their motivation in class. They felt that their motivation depended on their personal choice to participate and whether or not they were interested in the topic at hand. One student declared, “Some days I want to do stuff, and others I don’t.” Although the majority of students did not see a connection between the new space and their motivation, there was one student who felt differently, “I feel more excited to do the activities and happy.”

The reinvention of the physical layout of our classroom seemed to have an impact on my practices as a teacher, particularly on the manner in which I planned lessons. An open space allowed for more movement for my students, thus I prepared activities in which they were able to get up and move around the classroom more often than in the past. I found the impact of this planning in the answer of a student, “We are more motivated because we have more activities because we have more space.”

Attitude. The attitude of students in class seemed to have a connection with the fact that the absence of desks allowed them to interact with friends. Many responses in the surveys related situations in which students were happier because the new layout of the classroom allowed them to sit wherever they wanted, around anyone they wanted. As one student put it “I feel more relaxed because we aren’t stuck sitting in desks all day. We can sit on the ground more comfortably so I am not so grumpy anymore.” Another student said, “I feel my attitude has changed a lot! When I’m in a classroom with desks I feel bored and miserable. But with no desks and such I feel happy and free!”

Students had the option to sit with a close friend, or to sit somewhere different and interact with someone else. A great number of students felt happier since they were no longer confined to their desk partners or to the same group of people with which they used to sit. They
enjoyed the opportunity to sit with their friends and felt that this impacted their attitude in a positive way, and also played an important role in their desire to participate.

**Culture.** I believe that the culture of a classroom can have a strong impact on student learning. A safe, engaging, and positive environment can aid in creating meaningful experiences. When I asked students whether they had felt a change in the culture of the class, several responses were particularly interesting:

“We are all happy.”

“I feel like I’ve adapted more to the class now.”

“We have been bonding better as a class.”

“I think we have become more open and relaxed.”

“People don’t have as much pressure on them.”

It appears that the open space provided meaningful interactions between students, which in turn created a safe learning environment in which they could be themselves. It was interesting to me to note that some students felt pressure while sitting at a desk, and the informality of the new space allowed for them to feel more comfortable among their peers.

**Choice.** Student input and choice regarding the classroom is a very important aspect in my teaching. I found this area to be most informative and most beneficial to my research. At the start of my research, my original plan was to consult with my students and make a group choice about the physical layout of our classroom. However, after touring my school building, and analyzing the classroom sketches of my students, I decided to use the collected photograph as well as students sketches to inform my decision in removing the desks and chairs. I wanted my students to experience something completely different from what they were used to and interact
REINVENTING SPACE IN THE CLASSROOM

in that new space for a long period of time. In the survey they were asked, “Should students be able to decide what their environment looks like? Why?” Here are some of their answers:

“In my opinion, yes, because if children can’t decide how their learning environment is, then they may have a hard time thinking and taking tests.”

“I think it is a good idea to have the student decide what the classroom looks like so then they look forward to coming to school.”

“Yes, so then class would be more enjoyable.”

“I think they should because the students are the ones who stay in it for 7 hours.”

“Yes, because they might be able to think and work better in a familiar space of their choice.”

“Yes, so they like being there and enjoy being in the classroom.”

“Yes, because I think it effects the way they act.”

“Yes, because they could feel safer and more at home.”

Student Stories

James. James started out the school year often worrying about social interactions and what his peers thought of him. He approached me with a desire to do better in class, but also with a worry about what others would think of him if he started doing better in class. He wanted to maintain an appearance of being “cool” while simultaneously wanting to do well in class. He seemed overly concerned about the social aspect of a classroom and this appeared to keep him from growing academically.

With the new physical layout in place, James felt that he was no longer being watched. Everyone was able to use the open space to their advantage, and he had the option to sit around
REINVENTING SPACE IN THE CLASSROOM

whomever he wanted while working. He would often choose to sit with peers who would keep
him focused on his work and help him accomplish the tasks he was presented with.

James also began opening up creatively. He started to bring in art projects he had
completed at home and he wanted to put them on the walls of the classroom so that they could
become a part of our new learning environment. The lack of desks and chairs provided a
flexibility in our interaction with each other, which in turn allowed James to become more
comfortable with himself and his peers. His level of motivation increased a lot which I noticed,
and he noticed in himself, “I am more happy, so I can keep on pushing through the year.” I could
see in both his attitude and in his classwork that James was happier to be in class and more
involved in the tasks he was presented with.

Angela. Angela was a naturally shy student who worked quietly through her
assignments. She seldom spoke up when in need of extra explanations or support. Angela was in
need of interaction with her peers, notably her friends, in order to flourish in class. The fact that
she was able to sit and work with friends really aided her in finding a deep connection with what
was being taught in class, and overtime instilled in her a love for learning and a strong desire to
participate. Of all my students, Angela seemed to have been the most impacted and truly
expressed the positive effect the new environment had had on her.

In her survey, she articulated her newfound love for school, “I feel ready to learn and do
things that you’re supposed to do in school like language arts, math, specialties, social studies,
and science, so I think it is great.” Her attitude in class seemed to have an effect on her feelings
toward learning in all curriculum areas. Angela concludes her survey by expressing that the new
environment is “very great, wonderful, awesome, whatever you would like to call it. It is
extremely wonderful I love it.” Her simple answer, and the way in which she repeats how
positive of an experience it was for her, impacts me deeply as her teacher. She was greatly impacted and her autonomy and independence really grew throughout her experience with the new environment.

Ethan. Ethan was a student who would hardly ever complete an assignment or participate in an activity. He seemed to be constantly displeased with what was going on around him and needed many reminders to finish the things that he started. He would often share with me that he only cared about one thing, sports. If a story problem involved a soccer ball, he was more interested. If an activity involved some version of a competition, he lit up. I was concerned with his approach to learning, so I felt relieved when I discovered that the open space in the classroom had provided for a different way in which he could connect with what was being taught. In his words, “I feel like I want to do whatever we’re doing because I know it’s going to be fun because I have more space to work in.”

Ethan shared that he felt happier and more involved since the change in the physical layout of the classroom, and this showed in his work. I could see that he had more motivation to get his work done, and would light up as soon as it was time for him to work on his assignments. The open space, and the fact that he could choose where to be in the classroom allowed for him to feel more at ease in the learning environment. Ethan was suddenly more interested to get to work once I was done teaching something to the class as a whole, since that meant he could choose any space in the classroom and work with his peers.
Student Final Classroom Designs

As part of their survey, students submitted a final classroom design, with the same instructions that were given the first time they were assigned this project. A handful of students created classrooms in which there was no seating arrangement and emphasized the importance of open space in their ideal setting. Their experience without desks and chairs had changed their perception and expectations for an ideal classroom.

Figure 15. Student sketch following the new physical layout #1

Following the change in the physical layout, students noticed the benefit of taking out traditional furniture and creating an environment conducive to their learning experiences. Many of their classroom designs no longer included things such as swimming pools, hot tubs, or vending machines. It appeared that students were taking into account the way in which their
environment has an impact on their learning, and it seemed that they were thus making choices according to that knowledge, again unknowingly benefitting from their participation in my action research project. The new classroom layouts that they created were flexible, but realistic, which led me to consider even more the importance of student input on choices concerning the physical layout of the classroom.

I had expected some of these new designs to reflect the first sketches which they shared with me at the start of the research process. I was slightly worried that since our classroom had become more flexible, they would feel the urge to implement even more extravagant components in their final designs. What I found was that my students had appeared to have matured in this area and were showing interest in what their future classroom could potentially look like, while keeping in mind the importance of learning as well as an enjoyable experience.
Perhaps my favorite final design was that of a student who created an optional seating arrangement. Based off of her experiences, she felt that it would be important to consider both the group of students who would like to sit at desks, as well as the group of students who would like to omit desks altogether. This made me further consider the importance of student participation in the reinvention of the classroom space.
REINVENTING SPACE IN THE CLASSROOM

The Teacher

On a typical day in my classroom, before the change was made to our learning environment, students sat at their desks while I would stand at the front of the room and give instructions from the white board or the projector screen. I paced the room while I taught to make sure that I had everyone’s attention, and simply because I needed that movement to not become bored myself. My students were expected to pay close attention to the direct instruction that I gave, so that in turn they might apply new concepts to their classwork. After spending time giving instructions, I let my students work on a worksheet, an activity, or a project while I paced the room to offer assistance to struggling students, or worked on some sort of grading at my desk. Students were either working with a group of three to four students, with a partner, or independently.

As a teacher I am expected to teach from the curriculum. I am to meet certain standards, and ensure that my students meet their own set of standards in relation to what is being taught in class. Seeing that I have two sets of students, an average of 30 students in each group, I am responsible for quite a large number of children and their learning progress. My expectations are clearly cut out for me and I plan out every day in the school year to ensure that I don’t miss something of value. I push myself to make new content interesting to my students in order to retain student engagement.

After teaching for several years, and putting a lot of effort into my lesson planning, I felt that I needed a change in my classroom. This led me to study and observe learning environments and their impact on student engagement. I focused my research on the physical layout of classrooms and from that decided that I wanted to implement a change in my own classroom. My students still had to meet certain criteria, as did I. I felt that implementing a change in the
physical layout of the classroom would rejuvenate me as a teacher, and in turn rejuvenate my students. This concept goes back to the effective use of action research methodology in my experience, as it addresses my desire to improve myself as a teacher and create the best learning experience for my students (Sagor, 2000, p. 3). Overtime, I was concerned that some of my research was not measurable. I was not collecting hard data such as test scores or school attendance; I was gathering data through observation and personal impressions. However, action research is not generalizable and allowed for me to assess my students in a flexible manner and gather data that I felt was important for me. My research was therefore specific to myself and to the needs of my students (Sagor, 200, p. 2).

Perhaps the most shocking aspect of my research was the time that I committed to the change in the physical layout of our classroom. Rather than removing the desks and chairs for a short period of time, I committed to the change for over four months. The change was long term and appeared surprising to many outsiders. I was often approached by other teachers in my school who were curious about my approach to the learning environment and wanted to know more about my research. Many teachers asked why I was making such a change, to which I would often answer, “Well, why not? I needed a change, and so I made that change.”

I was never worried about what my students would think, and I had created strong respectful relationships with their parents, so I was not afraid of what they would think, either. In fact, not once did a parent question my motives. They were fully supportive and quite enthusiastic about the changes taking place in our classroom. However, how my co-workers perceived it was more of a concern to me. I wondered if they would perhaps question whether or not my teaching was still as effective and meaningful as it may have been in a typical classroom layout. In a way, that sense of vulnerability drove me to keep the new physical layout of our
REINVENTING SPACE IN THE CLASSROOM

classroom. The questions that other teachers would ask me would guide my research as it would cause me to reflect on my decision and its impact. I found it quite interesting that not one teacher in my school made any changes to the layout of their classroom, even though I had shared some positive results with them.

Being an immersion teacher, it was amazing to see the increase in language acquisition among my students. This is yet another aspect that is difficult to measure; however, students were mingling with each other much more often and were given opportunities to speak the language with myself and with their peers more frequently. Although I had not anticipated this to come about, and did not pay attention to its effects until much later in my research, it is eye-opening to see the increase in language proficiency in my classroom.

The hardest part of teaching a second language is ensuring that students not only understand grammar rules, increase comprehension, spend time reading and writing in the language, but are also able to use the language in real life situations; that they are able to carry out intelligent and meaningful conversations with others. A change in the physical layout, creating more open space and allowing students to interact with each other and myself more openly, added another dimension to my research. Students were spending more time speaking with each other and practicing the things which they had learned in the French language.

Seeing that my students no longer had chairs or desks, I had to push myself to do the same. Rather than simply observing them as they interacted with the new physical layout of our classroom, I plunged myself into the change as well. My personal desk and chair became a space with which anyone could interact. I often had students sitting at, on, or around my desk while working with their peers. I had to push myself to make sure that I never found myself sitting at my desk for a long period of time. This approach caused me to see my classroom very
REINVENTING SPACE IN THE CLASSROOM
differently. I was interacting with the space much like my students were. I found myself moving
around the classroom much more frequently and was often on the floor working with my
students. In fact, there were several instances where an adult would enter the room and ask to
speak with the teacher. They couldn’t find me among my students because I blended right in
with the new environment. Their expectation of finding me standing at the front of the room was
definitely not met.

I found that I was more conscious about the motivation of my students as they were not
hiding behind desks. Their body language was readable and I knew when we were in need of a
quick change in our activities. This kept my students actively involved in what was happening
and kept them interested in the material. Since I was perceptive to their needs, and responded to
them quickly (through movement, a short activity, etc.), they were more inclined to have a
positive attitude and participate in class.

Overtime, I felt more comfortable with myself as a teacher and felt an improvement in
my attitude towards my career. I felt happier to be in school and much more proactive in my
interaction with my students as I was somewhat forced to spend more time with them and less
time at my desk or in my chair. I still took attendance, graded papers, read articles, planned
lessons and activities, read one on one with my students, etc. but all of these things happened
away from my desk or when my students were not in my classroom. The relationships I had with
my students greatly benefitted from this as I was immediately accessible and always involved in
what was happening in the classroom.

My research experience did not focus on student scores or academic achievements. At
first this worried me because I felt that my decision to make such a change in my classroom
could only be validated if my students showed an increase in these areas. However, my goal as a
teacher is to create the best learning environment possible for my students. This experience was not only beneficial for myself as a teacher, but also for my students. Even if their scores stayed relatively the same, their attitude towards school and their motivation to participate increased across the board, as many of their survey answers indicated. The increase in happiness in my students was one of the greatest accomplishments that came from this research project, as well as my own increase in happiness.

Conclusion

The new physical layout of our classroom lasted until the last day of the school year. We never returned to the original set up of our classroom throughout the course of the research. The final designs which I collected from my students were informative and eye opening. Due to time constraints, we were unable to implement some of their design ideas. However, in the spirit of action research methodology, these final sketches could easily be analyzed and introduced as yet another solution to the question concerning the influence the physical layout has on student learning and engagement.

The conclusion of my research led me to ponder the impact of the learning environment that I had created. Towards the end of the school year I wondered if the new environment had become habitual to my students, and if its design was becoming less effective than I had anticipated. Could it be that the new environment I had worked hard to create had become an embedded habit for my students, and had it potentially lost some of its original spark? I gathered no noticeable changes in my students concerning this thought process; however, it would have been an interesting question to delve into, had time allowed. Thus, my research could lead into interesting future research concerning classroom environments.
In the following chapter I will outline future applications of this research project and the role it plays in already existing literature concerning learning environments and student engagement. I will also share the ways in which my findings can be applied to other areas within the field of education, while referring back to the important impact of action research methodology throughout this project.
Chapter 5: Conclusion

In this section I will present areas that were impacted by my research experience. By altering the physical layout of my classroom, I noted an increase in several areas, mainly student engagement. I also noticed a positive change in myself as a teacher. This chapter will present possible future applications for this research experience in connection with student participation as well as the roles of elementary teachers. Action research methodology is important in this experience as it is a process through which teachers notice a problem, find and implement a solution, gather and analyze data, and make further decisions from their findings. This will also be presented in this section in relation to future applications.

Altering Learning Environments

Creating a change in the physical layout of a classroom seems to have an impact on student engagement, motivation, attitude, and the culture of a class as a whole. Using Reggio Emilia schools as an example, I implemented a change in my elementary classroom by removing all of the desks and chairs from our classroom. All other components in the classroom remained the same and were not altered throughout the research experience.

In connection to Reggio Emilia schools, my situation is different, and would be different for most elementary teachers interested in the implementation of such a project. Reggio Emilia schools were built from the ground up and the physical layout of their classrooms have been implemented from the very beginning. Creating such a change in a traditional elementary school classroom can prove to be more difficult, as it is introducing a concept that most teachers are not used to. A drastic change would indeed have a different impact in the general classroom than in a school that has been founded on such an approach. Therefore, results can vary across classrooms.
REINVENTING SPACE IN THE CLASSROOM

A change in the classroom environment does not have to be limited to desks and chairs. This research embraces a concept that can be carried over into a variety of areas. Learning environments involve storage space, learning centers, reading corners, what appears on the walls, etc. Teachers and students can thus alter their learning environments in many different ways. This research experience can be applied to a variety of classrooms in general education.

From my research, I came to learn that the physical environment can change many things for a group of students, especially since they had grown accustomed to the same general layout from past years. After gathering and analyzing the data, I discovered that altering the physical layout of our classroom had a positive impact on several aspects of learning, namely student engagement, motivation, attitude, and the culture of our class as a whole.

Student Participation

Following my research, I felt that altering a learning environment, by removing the desks and chairs from our classroom, increased the involvement of my students and aided in creating positive attitudes towards their learning experience. Thinking outside of the box and changing the physical layout in our classroom seemed to pique their interest and rejuvenate them in a way. Students were more active in class and more prone to participate in activities. From the data gathered and the feedback students provided in their sketches and surveys, I found that student engagement, motivation, attitude, and class culture increased across the board.

Action research methodology guided my inquiry and the way in which I gathered and analyzed data. The data then guided my thought process concerning future applications of this research. Rather than implementing a change and observing student interaction with that change, an interesting application would be a deeper collaboration between students and teachers through the lens of action research. This would create a more proactive learning process for all involved.
REINVENTING SPACE IN THE CLASSROOM

It would be interesting to see what would happen if students were at the forefront of the research and acted as active participants rather than being observed following the change in the environment. Students could be involved in conversations concerning action research itself and contribute to the identification of problems as well as gathering and analyzing data. Having students implement changes themselves based off their own observations, and not only the observations of the teacher, could provide for a wonderful collaborative experience surrounding learning environments and student engagement.

As presented in earlier chapters, there has been a great deal of research around the impact of learning environments on student engagement. Much of that research is through the lens of teachers and researchers who have seen a problem, identified a potential solution, and implemented a change that they felt would present a solution to that problem. The gathering and analysis of data inform future decisions throughout the process. Current literature could benefit from a research experience surrounding the collaboration between teachers and students through the methodology of action research while addressing concerns about the learning environment in general education classrooms. Specifically focusing on that collaboration could shed new light on the connection between the physical layout of a classroom and student engagement.

I believe that including students in the decision-making process could potentially bring an added measure of motivation from students as they would be directly participating with the choices concerning the learning environment. Their surroundings would be created by their interests and this could allow for a deeper connection with what is happening in the classroom.

**Elementary Teachers**

Altering the learning environment created a way for me to rethink my teaching strategies and pushed me to provide more meaningful lessons in order to make the best use of the new
space. Creating a different environment also pushed me to alter the way I perceived my interaction with my students and I believe that many other teachers could benefit from this change. An increase in student participation and motivation aids in an increase in teacher motivation, and thus creates a positive learning environment for both.

One could add or take away from the environment as they see fit. Thus, changes in an environment can be applicable to teachers in various situations and can easily be implemented. It is their choice whether the changes are large or small, as action research allows for teachers to make decisions based off their needs and the needs of the students. Action research is a very personal approach to research and a fitting methodology for teachers seeking to improve their classroom environment.

Action research is a cycle of inquiries and solutions. As a teacher is seeking for ways to improve their classroom situation, they can create environments that they find fitting for their students. They have the option to make those changes themselves, or with the help of their students. Following the implementation of a solution a teacher will gather data and analyze the impact of the change that was made. If that solution proves to be less successful than expected, then the teacher is able to regroup, present a new plan, put that plan into place, and analyze its impact. This cycle can be repeated as often as possible.

As a teacher, I have greatly benefited from the findings of my research through the implementation of a desired change, guided by action research methodology, and the input and feedback of my students. As presented in Chapter 4, the results of this research were positive and impactful. My students experienced an increase in engagement, motivation and attitude. As a whole class we also felt an improvement in teaching and learning. The new physical layout that was created allowed for us to interact with each other on a different level and improved our
REINVENTING SPACE IN THE CLASSROOM

relationships. Indeed, because of this experience, my desire to become a better teacher has all the more increased.
REINVENTING SPACE IN THE CLASSROOM

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REINVENTING SPACE IN THE CLASSROOM


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REINVENTING SPACE IN THE CLASSROOM


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Appendices

Appendix 1: Classroom Announcement Script

Hello class

As most of you know, I am a master’s student at Brigham Young University. I am currently researching the effect of classroom environments on students. I would like for you to be a part of my research! We will be changing our classroom layout. Throughout the research you will be taking surveys and I will be asking you a few interview questions. None of these things will distract from regular classwork, and we will continue to work on curriculum items. I will also be taking notes on the changes happening in our class.

I am sending you home with several documents that you need to read very closely with your parents. These outline very specifically what will be happening in class, and whether or not you would like to participate in the research.

I appreciate your help with my research!

Thank you!
Appendix 2: Assent Form

Child Assent (7-14 years old)

What is this research about?
My name is Amandine Loveland and I am a graduate student at BYU. I want to tell you about a research study I am doing. A research study is a special way to find the answers to questions. We are trying to learn more about how reinventing our classroom space will have an impact on you. You are being asked to join the study because you are in my class.

If you decide you want to be in this study, this is what will happen:

- You will learn more about the impact of learning spaces
- You will participate in redesigning our classroom
- You will participate in the reinvention of our classroom space
- You will be interviewed for 10-15 minutes, several times, about your experiences
- You will also be completing a survey at the beginning, middle, and end of the research

The interview will happen in my classroom during school
I may contact you later to ask a few more questions
The total time will be about 30 hours, which includes all the time you spend in class, and the interviews.

We will continue to do regular work in class. However, the research study will involve additional activities such as interviews, audio recordings, video recordings, and surveys. These are activities that you can choose to not participate in.

Can anything bad happen to me?
You may feel a little weird or uncomfortable when you are being asked or are answering the questions.

Can anything good happen to me?
Nothing good will happen to you specifically, but the hope is that you will realize the impact that creating your own learning space can have on you as a student.

Do I have other choices?
You can choose not to be in this study.

Will anyone know I am in the study?
We won't tell anyone you took part in this study. When we are done with the study, we will write a report about what we learned. We won't use your name in the report.

What happens if I get hurt?
You gave a paper to your parents that tell them what to do if you feel too weird or uncomfortable. You don’t have to answer any of the questions during our interviews and you may stop answering the questions at any time. Don’t worry; not answering questions won’t change your grade or the way you’re treated in class.
What if I do not want to do this?
You don't have to be in this study. It's up to you. If you say yes now, but change your mind later, that's okay too. All you have to do is tell me or you parents, and we can withdraw you from the research.

You will not be receiving anything for being in this research study. All the information on you will be kept for one year if you ever want to see it. Before you say yes to be in this study; be sure to ask Amandine Loveland to tell you more about anything that you don't understand. If you want to be in this study, please sign and print your name.

Name (Printed): ____________________  Signature: ____________________

Date: __________
Appendix 3: Consent Form

Parental Permission for a Minor

Introduction
My name is Amandine Loveland. I am a graduate student from Brigham Young University, working with Professor Dan Barney as my faculty advisor. I am conducting a research study about the impact of student created learning environments. I am inviting your child to take part in the research because he/she is a student in my class.

Procedures
If you agree to let your child participate in this research study, the following will occur:
The research will take place in my classroom as part of my scheduled curriculum. Students will continue to participate in regular class activities. The following will occur in addition to regular class activities as part of the research:

- Students will be participating in the reinvention of the learning environment with which they participate.
- Students will participate in class discussions about the impact of physical space and will design their own classroom.
- A 10-15 minute interview (done three times) with students will be audio recorded and transcribed for data analysis.
- Students will complete administered surveys along with the interviews.
- The researcher will keep a journal of detailed reflections about the experiences, which will add to the descriptive, qualitative data.

Risks
There is a risk of loss of privacy, which the researcher will reduce by not using any real names or other identifiers in the written report. The researcher will also keep all data in a locked file cabinet in a secure location. Only the researcher will have access to the data. At the end of the study, data will be either destroyed or given to you and your child.

Confidentiality
The research data will be kept in a secure location (or password protected and encrypted) and only the researcher will have access to the data. At the conclusion of the study, all identifying information will be removed and the data will be kept in a locked cabinet or office. The data will be kept for one year. The same will be applied to the protection of audio and video recordings.

Benefits
There are no direct benefits for your child's participation in this project. This research will contribute to the conversations that are occurring about physical learning environments in a general education classroom. Little research has been performed about the inclusion of student input when reinventing the space. Most of the research has taken place in school building architecture and design, and is based on the perspective of teachers and adults. With this study, I hope to explore how student input and choice can be a valuable tool and an alternative to the design of classroom layouts and physical environments. I hope to investigate
REINVENTING SPACE IN THE CLASSROOM

the impact that student created environments can have in an elementary school classroom. Grades will not be impacted on your decision to participate.

Compensation
There will be no compensation for participation

Questions about the Research
Please direct any further questions about the study to Amandine Loveland at 801-636-7256 and amandinegc@gmail.com. You may also contact Dan Barney at 801.422.1581 and daniel_barney@byu.edu
Questions about your child's rights as a study participant or to submit comment or complaints about the study should be directed to the IRB Administrator, Brigham Young University, A-285 ASB, Provo, UT 84602. Call (801) 422-1461 or send emails to irb@byu.edu.
You have been given a copy of this consent form to keep.

Participation
Participation in this research study is voluntary. You are free to decline to have your child participate in this research study. You may withdraw your child's participation at any point without affecting your child’s grade or standing in school. You may also withdraw participation from specific activities such as surveys, interviews, etc. if wanted. If you choose to decline participation, students will still need to complete class requirements but will not be interviewed for research purposes. All tasks pertaining to regular course work is curriculum required, however, interviews, surveys, and recordings of any kind will be gathered for research.

Child's Name: ____________________________

Parent Name: ___________________ Signature: ____________________

Date: __________
Appendix 4: Student Survey

- What defines a classroom?
- How much say should a student have in the design of the classroom?
- How do you feel about the teacher’s decisions about the classroom layout and design?
- Describe something you would like to see in your classroom.
- Are you ever uninterested in something that is in your classroom? Why?
- If you could put anything on the walls of our classroom, what would it be? Why?
- What components make it easier for you to connect with your environment?
- What was your initial reaction upon the reinvention of our classroom layout?
- Is our classroom lacking in anything?
- How do you feel your involvement in classroom activities has changed since the reinvention of our classroom space?
- How do you feel your attitude in classroom activities has changed since the reinvention of our classroom space?
- How do you feel your motivation in classroom activities has changed since the reinvention of our classroom space?
- How do you feel the culture of our class has changed since the reinvention of our classroom space?