James Madison University

JMU Scholarly Commons

5-2020

The third teacher: An analysis of aesthetic and intentionality of space in the classroom

Madeline F. Brown
James Madison University

The Third Teacher: An analysis of aesthetic and intentionality of space in the classroom

_____

An Honors College Project Presented to

the Faculty of the Undergraduate

College of Education

James Madison University

_____

by Madeline Faith Brown

May 2020

Accepted by the faculty of the College of Education, James Madison University, in partial fulfillment of the requirements for the Honors College.

FACULTY COMMITTEE: HONORS COLLEGE APPROVAL:

_____   _____
Project Advisor: D. Reece Wilson, Ed. D.,   Bradley R. Newcomer, Ph.D.,
Professor, College of Education   Dean, Honors College

_____
Reader: John Almarode, Ph. D.,
Professor, College of Education

_____
Reader: Lydia G. Brown, M.A.,
Ph.D Candidate, Department of English at the
University of Virginia

The Third Teacher: An analysis of aesthetic and intentionality of space in the classroom

Table of Contents

Acknowledgements

I would first like to express my gratitude towards D. Reece Wilson, my project advisor, for providing his time, guidance, and wisdom throughout my writing process. As a professor, he first inspired my interest in early education theorists and challenged me in a semester-long case study. As an advisor, he has taught me much about academic writing and research, all through an inspiring educational lens. It has been a privilege working under his guidance.

In addition, I would like to thank my reader John Almarode for his time spent providing feedback on this project. His passion and posture for teaching has encouraged my future career in elementary education and his writing is one that I will continue to refer back to during my times as a teacher.

I would also like to thank my reader Lydia Brown for her creative and detail-oriented vision of my work. She provided insightful comments on my work and has encouraged me throughout my academic career.

Finally, I would like to thank the Honors College and College of Education for the opportunity to complete this project.

My committee is one that I will forever be grateful for, as their time and guidance were vital for the outcome of my project.

The Third Teacher: An analysis of aesthetic and intentionality of space in the classroom

Abstract

The Third Teacher—a concept central to the Reggio Emilia approach to education, states the physical environment plays a vital role in learning. Early education theorists, such as Loris Malaguzzi and Maria Montessori, emphasize the idea of a prepared classroom environment; however, modern day classrooms are seemingly arranged without much intention. Because of this, current classroom spaces are not in alignment with research from past theorists, resulting in compromised student achievement. This thesis answers the question, "How can educators purposefully and practically utilize the classroom space to maximize student learning?" on the basis of lighting, seating, organization of materials, color scheme, and decor in order for educators to align the details of their classroom with past and present research.

Introduction

I stood in a small room, dust covering the floors, the walls a dark shade of green. There were no windows, just a small door opening that would welcome the night's wind full of dirt and debris. The furniture was a muted gray-brown that housed student doodles and notes. The bookshelves had not been touched in ages. Though I could not understand a word of Spanish, I had my colleague translate: "Instead of having you all tutor this week, we are going to redo the classroom," the teacher said.

Though living in a highly impoverished area, the teacher of the small classroom in Magdelena, Guatemala had a vision of a transformed classroom. With a small amount of funds, that is exactly what the teacher, some classmates and I did that week. We moved the classroom to a space that had a multitude of windows; without a lightbulb, the space was filled with light. The floors, instead of a dirt-covered concrete, were laid with blue, ornate tile. A long conversation was had about wall color, though we settled on a light yellow. We spent a couple

The Third Teacher: An analysis of aesthetic and intentionality of space in the classroom

days cutting, gluing, and crafting "Bienviendos," or welcome, signs, as well as posters that represented the globe, math problems, and the alphabet. Desks and bookshelves were repainted. We even included flowers from the ceiling, as the teacher believed that it would symbolize growth and beauty for her students.

There is something peculiar about my experience in Guatemala. Rather than casting the classroom space to the side, the teacher picked apart her space, perhaps thinking to herself, "There is something that isn't working here, something that I can make better." She understood that a classroom was to be well lit, colorful, inviting. She expressed the importance of wall color and flooring. She worked to make sure what was being learned was displayed, as she hung up posters of the English alphabet and the solar system for her students to refer to while working. The teacher in Guatemala took autonomy in her classroom space in order to transform her students' learning.

Loris Malaguzzi, the founder of Reggio Emilia schools, explains how the classroom environment plays a vital role in making learning meaningful. Malaguzzi terms this idea the "Third Teacher," or a physical space that facilitates "principles of children's thinking, questioning, and curiosity" (Biermeier, 2015). There is a deep understanding here, that the classroom goes far beyond what is seen by the eye, and learning goes far beyond curriculum. More specifically, Malaguzzi explains how a child has over one-hundred manners of interacting with the environment, yet the traditional teacher will seemingly steal ninety-nine (Malaguzzi, 1996). Rather, an instructor that believes in Malaguzzi's "Third Teacher" is one who ponders the physical layout of a classroom, its impact on students, and how it can be manipulated to enhance learning.

The Third Teacher: An analysis of aesthetic and intentionality of space in the classroom

It is true that teachers are faced with the constant challenge of crafting an environment in the midst of pressing demands regarding standards and curriculum, yet classroom design is a significant pedagogical concern as an agent of learning that must be adapted for various needs (Rosko & Neuman, 2011). Therefore, the "Third Teacher" idea, introduced over seventy years ago, has a great need in the classroom today. One can argue that the teacher in Magdelena, Guatemala had beliefs that aligned with Malaguzzi. She saw that her classroom had potential to foster learning, and she took appropriate steps to get there after much thinking and conversation. This poses the following questions: How can educators take theories of classroom environment and implement such ideas into the current classroom? How can educators create a space that fosters meaningful learning, creativity, and individual identities and values? How can educators take intentional strides in transforming classrooms into "Third Teachers?"

Literature Review

Throughout my years as a student, I dreaded the moments when my teacher would walk toward he light switch after moments of returning from lunch or recess–it was those still, dark moments where I found myself the most reflective. During a practicum experience, I found that the "read-to-self" time in the kindergarten classroom was spent in a brightly lit room while students read on the cold floor–I was left confused, and I felt for the students who wanted nothing more than to curl up with their book in the coziest of manners. I find it ironic that, when walking into my friends' rooms, I see journaling alongside candlelight. When stepping into a coffee shop, I hear deep conversations on thrifted couches amidst string lights. It's as though society understands that soft lighting and a comfortable atmosphere sparks the creative mind, yet the very place that aims to promote such thinking in children often dismisses this important and vital classroom component. Because of this, it is vital to analyze best practice methods regarding

the physical layout of where children will arguably have the most condensed learning experiences—in the classroom.

Theorists have emphasized the importance of the classroom environment for decades. The Reggio Emilia approach to education by Malaguzzi is a philosophy surrounding the notion that "children explore visual and expressive languages in strict synergy with verbal, body and logical ones" (Manera, 2019, p. 130). This emphasizes the power of the visual, physical layout learning space in its ability to complement traditional lessons for student learning. Moreso, "in its attention to how space can be thoughtfully arranged, the Reggio Emilia approach has reconceptualized space as a key source of educational provocation and insight" (Strong-Wilson and Ellis, 2007, p. 40).

Malaguzzi states that "art could and should have a substance and a main aim: education and evolution. A constant and progressive improvement for people who, through intermediate and necessary processes, can reach an ideal path that will improve their life" (Malaguzzi, 1945, p. 131). From this, one can see how aesthetic in the classroom is vital for both the benefit of student learning and the well-being of the individual. While it is necessary for students to be exposed to such artistic expression in the classroom, Malaguzzi also emphasizes the idea that the visuals of the space should be somewhat free-flowing, that aesthetic should not be fixed, but rather evolving throughout time; more specifically, the classroom should serve as an "aquarium which reflects the ideas, ethics, attitudes and culture of the people who live in it" (Keleman, 2013, p. 4). Just as a teacher would acknowledge the individuality of the students in the classroom, the physical space should also mirror the uniqueness of those within.

While the Reggio Emilia approach explains the importance of the classroom as a whole, the method also highlights the teacher's specific role as a provider of self-esteem and self-

responsibility within the environment. According to a study from Maxwell and Chmielewski, first grade students who spent time in a Reggio Emilia classroom experienced higher levels of self-esteem on the basis of responsibility, decision-making, setting goals, and feeling accepted when assessed on SEI (Self-Esteem index) and CISE (Children's Inventory on Self-Esteem) scales compared to students in a traditional classroom (Maxwell & Cmielewski, 2008). This could be due to, "teachers [being] learners [who] provide an environment and opportunity for every child to act in a way that is sufficient to act himself and to structure knowledge. They consider themselves as "compasses" and set on the adventure of learning with children" (Arseven, 2014, p. 169). In addition, the environment is seen as "the spaces that teachers create for children seem to hold enduring memories for them that have a powerful influence on what they value later in life" (Fraser, 2012, p.112). Not only are teachers facilitators of learning, but they are the providers of opportunity within the space.

Maria Montessori, a late 19th – early 20th century researcher of psychiatry, education, and anthropology, believed in the prepared environment by the teacher as well as the acquisition of learning through freely engaging in such an environment (International Montessori Index, 2019). In her book, *Education for the New World*, Montessori explains the power of the child and the necessity of the teacher to guide the student in their education process. On the topic of classroom space, she states "adults may admire an environment and remember it, but the child can absorb it unconsciously and form with it part of his psyche" (Montessori, 1946, p. 34). This idea conveys the notion that the classroom should be more than merely considered but recognized as one of the main focal points of a child's development. Montessori continues: "psychologists say that behaviour is affirmed in each individual by experiences carried out on the environment, and therefore the first task of education is to furnish an environment which will

permit and aid the child to develop him by nature. This is not a question merely of pleasing the child, but of cooperation with a command of nature" (Montessori, 1946, p. 42). Not only does Montessori emphasize the urgency in prioritizing the surroundings of students, but she highlights the agency of the teacher in being the provider of a space that aligns with child development. The classroom is not for the benefit of the teacher, nor is it for a positive attitude from a child, but rather it is seemingly a divine law of the earth, that in order for individuals to prosper, the classroom space has to work for the intentionality of learning.

Many have since adopted Montessori's key findings and principles into schools today. For example, Montessori schools see that "if essential physical conditions are provided in education buildings, pupils' learning performance can be increased" (al Sensory et al, 2012, p. 1870). Montessori schools also acknowledge the idea that "children develop active relationships in various contexts with their environment deeply and in layered functionalities," and thus focus on the prepared environment of the classroom (Yalcin, 2018, p. 452). In doing so, the environment is seemingly "'beautiful, but fragile' in order for both parents and children to maximize the full Montessori education" (Johnson, 2019, p. 5).

While there has been significant research from early theorists over time, current findings also point to the importance of well-planned and aesthetically pleasing learning spaces. Research shows that "designing learning spaces that meet the needs of students can be a high-leverage classroom management strategy, especially if the students themselves are involved in some of the decision making" (Dillon, 2018, p. 40). From this, one can see the importance of the space in transforming student behavior alongside student learning when done so correctly. In order to address some factors that aid in the development of such purposeful classroom design, current research on classroom environment has been further broken down on various factors.

For example, studies have shown that classrooms without fluorescent, overhead lighting have higher student achievement. More specifically, in a study done in North Carolina schools, students scored 15% higher on math and reading tests in classrooms with natural lighting opposed to classrooms with fluorescent lighting (Nicklas and Bailey, 1997). Current research also shows that well-designed lighting "has been associated with higher productivity, lower absenteeism, fewer errors or defects, positive attitudes, reduced fatigue, and reduced eye strain (Edwards & Torcelli, 2002, p. 2). This idea strengthens the fundamental notion that the classroom environment plays a key role in the physical and emotional well-being of a child, which in turn, positively affects academic performance.

In addition to lighting, research shows that symbolic features in a classroom, or decoration, "can signal to students whether they will be valued and encouraged within the classroom, with consequences for educational equity" (Cheryan et al, 2014, p.8). Not only does this support the point that the conscious classroom can have a lasting effect of inclusion and community for students, but it also highlights purposefulness of decor. While it is important for the teacher to maintain a well-decorated space for aesthetics, decor should convey larger values. A recent study concluded that an overly decorated classroom, one that became more about having a high quantity of nonspecific and seemingly empty items, worsened student achievement compared to student achievement in a more visually sparse environment (Fisher et al, 2014). Although a classroom space should be well-decorated, it is necessary to find the balance between purposeful items, personal teaching values, and emphasis on aesthetics, as a classroom can lose its effect when overdone.

Although theories and current research highlight the importance of the physical layout of the classroom, schools are neglecting to put such findings into practice. In the average

classroom, "the typical lighting source is fluorescent lights. Indications are, however, this type of lighting can cause students to become hyperactive and agitated, which diminishes productivity" (Warner and Myers, 2010, p. 30). In addition to this, "the color of the walls in most of the classrooms across America do not speak of creativity, they speak of institutional blandness" (Warner and Myers, 2010, p. 30). Even "what is known about student comfort, particularly in terms of furniture, has yet to be translated into actual school environments" (Higgins et al, 2005, p. 7). According to the National Center for Educational Statistics, over fifty percent of school classrooms need modernization to be considered in good condition, yet less than twenty percent of schools have plans to even begin such redesigning (Alexander & Lewis, 2014). While it is true that there is a lack of correlation between current research and implementation in the classroom environment, "many elements found today in many elementary classrooms all originate in principles developed by Maria Montessori and practices that have been elaborated by Montessorians over the course of the past hundred years" (Whitescarver and Cossentino, 2008, p. 2573). This points to the idea that those in education are already resting much of their practices on theories; however, it is seemingly an impartial practice by failing to include the research on space in the classroom.

Research Design

This research intends to explore the details of classroom environmental design that aligns with past and present studies. More specifically, this research attempts to answer the question, "How can educators purposefully and practically utilize the classroom space to maximize student learning?" This was done by looking at the classroom through various lenses: lighting, seating, organization of materials, color scheme, and decor. The information was gathered through a

The Third Teacher: An analysis of aesthetic and intentionality of space in the classroom

series of current peer-reviewed articles and books, and the data collected is presented and

analyzed across each topic stated above. The following analysis will present such findings.

Analysis

Lighting

The efficacy of classroom design lies on the fundamental illumination of the space; that

is, the design of a room can go only so far as it is lit. Lighting is vital for human functioning, as

much so as food and water (Wurtman, 1975). Not only is light dire in terms of basic need, but it

also affects "vision, circadian rhythms, mood, and cognition" (Mott, 2011, p. 2). Therefore, in

order to maximize learning, educators should take tactful measures in utilizing the lights to serve,

not distract, students. Currently, the standard method of lighting in classrooms is the use of

fluorescent lamps, which are installed cheaply and efficiently (Morrow, 2018). This mode of

lighting is seen in over 80% of classrooms, and, within these classrooms, the mean illuminance

of such bulbs is seen in excess. More specifically, 84% of these rooms show that the standard

100 Hz of fluorescent lighting was utilized above the recommended illuminance and thus caused

headaches, discomfort, and hyperactivity in children (Winterbottom et al, 2009). This bolsters

the idea that students may be lacking a vital need prior to receiving any instruction, stemming

from the misuse of lighting in the classroom. Moreover, students may be experiencing physical

and psychological strain without understanding the source.

Although it is not up to the teacher to determine the infrastructure of the classroom, there

are many ways to meet the needs of students with any base lighting provided. To begin, it is

important that the educator acknowledges that a classroom of varying individuals will house

varying lighting preferences; therefore, in order to meet differing needs, it is necessary to have

differing lighting sources. Lighting design, or "supplying luminance, color temperature, and

lighting" allows educators to look at the brightness in their room with a more tactful eye (Samani & Samani, 2012, p. 132). Some students will learn best in a brightly lit setting, while other students will prefer a dimly lit space, so educators must be intentional in their design (Arthurs, 2007). If thought about in the same importance as the physical design of the room, lighting could be a tool used to help student performance.

In order to address the various needs of many students, it is first necessary to understand that lighting transcends a simple light switch flipped on or off. Rather, lighting should be viewed as dynamic and varied. Dynamic lighting refers to "different lighting settings that can be applied over time to support both mental alertness and relaxation" (Sleegers et al, 2013, p. 3). More specifically, studies show that dynamic lighting improves student performance, reading speed, behavior, and restlessness (Sleegers et al, 2013, p. 3). Because of this, it is necessary to provide multiple lighting illumination and fixtures for students to have ample opportunities for comfort and success in the classroom. In addition to this, educators can use the multiple light settings to enhance their teaching in various lessons, such as using soft lamp lighting for independent work while opting for bright natural lighting for a science experiment.

Using dynamic lighting is vital for different points in the day, especially considering how the illumination in a space affects behavior in students. In other words, if a student wants to relax, a subtle tone will help them unwind, while bright colors and lights will keep them alert and able to work efficiently (Kuijsters et al, 2015). In order to achieve this in a practical manner, the educator may decide to use dimmer switches and warm-toned light bulbs, string lights, or lamps. As teachers turn up the lights or open the blinds for a morning math lesson, they may later choose to turn off the overhead lights, close the blinds, and plug in the lamps and string lights for a relaxing and calming tone during read-to-self, independent, or indoor recess time. This will

enable students to have the opportunity to drift away in a creative space, as well as accommodate for students who work better in darkly lit spaces. As the teacher begins to incorporate varied lighting fixtures, they will be able to have more freedom in dictating various lighting options throughout the school day.

Seating

Most education today encourages sedentary behavior, or students sitting for a long period of time throughout the day. Currently, students are seen in such sedentary behavior for 63% of class time resulting in high levels of deprivation and cardio-metobolic health risks in students (Clemes et al, 2016, p. 526). While recent curriculum changes have been made to limit students' time sitting, the idea stands that if students are sitting in their seats for an extended period of time, it must come to some importance and should thus be utilized with deliberate planning. One way teachers have been addressing this has been the use of flexible seating. Flexible seating, or "the practice of allowing and providing many seating options for students," gives students freedom to choose how and where they sit based on personal preference (Garcia, 2020, p.1). With this, the teacher provides alternative seating to the traditional, upright plastic chairs with options such as yoga balls, couches, bean bags, etc. However, it is important to use intention with the seating arrangement in the classroom, as a randomized "flexible seating" philosophy may only go so far if left unthought-of (Sztejnberg & Finch, 2006).

In order to begin choosing specific seating types, it is necessary to first address key purposes that are vital to include in each classroom. To begin, seating must be both teacher-directed and jointly directed. Teacher-directed seating limits student decision making and provides learners with a single seating option, while jointly directed seating allows students to have freedom in choosing their particular seat from multiple options (Evertson & Neal, 2006).

The Third Teacher: An analysis of aesthetic and intentionality of space in the classroom

While it may be beneficial to have students sit in a particular seat for specific lessons, it must be balanced with student choice in order to provide learners choice through their individual preferences.

Not only should there be a balance between teacher-directed and jointly directed seating, but the classroom should also provide "caves and commons." With this, there should be areas for students to retreat to a private place for individual work, serving as the "cave," as well as spaces for students to interact with their peers, or "common" areas (Scott-Webber, 2004, p. 134). Attending to these purposes will help facilitate lessons of different demands, as students will have places to complete individual work in addition to group tasks without the constant need to constantly shift desks. Providing both the cave and the common area also communicates the idea that the teacher values not only individual students, but the classroom community. While keeping these general purposes in mind, the teacher can begin to utilize seating to bolster the goals of various lessons, which I will demonstrate below.

In a classroom, there are five main modes of interacting with knowledge: delivering, applying, creating, communicating, and decision-making (Scott-Weber, 2004). Making use of specific seating for each is a way in which the environment can deepen student learning.

I. Delivering Knowledge

Delivering knowledge makes use of the traditional seating arrangement of education, with the teacher leading the room amongst students sitting at fixed desks (Classroom Seating Arrangements: Poorvu Center for Teaching and Learning, 2017). This may be used during an introductory lesson, where the teacher is exposing learners to new material. Students are sitting in individual spaces and receiving information. The teacher may choose to arrange desks in small groups, horseshoes, etc. (Gremman et al, 2016). This type of seating may stay constant for

various weeks at a time, with the teacher using the teacher-directed method of seating to choose seats for students in order to minimize disruptions. Because students are in the firmest version of seating, the use of therapy balls, wobble stools, or air cushions may be necessary in order to maximize comfort, address fidgety behavior, and keep learners focused and on task (Matin Sadr et al 2017).

II.   Applying Knowledge

When students are applying knowledge, they are experimenting and constructing (Scott-Weber, 2004, p. 53). In this, students are using hands-on techniques to implement what they have learned and thus need a space where they can freely move. While a teacher may find themselves shifting traditional desks and tables to serve this purpose, they may also choose to incorporate standing desks. Standing desks are tables that can be raised for students to work without the use of chairs (University of Oklahoma Human Resources, 2020). Using desks such as these give students the ability to move in a fluid manner around their area. Moreover, utilizing standing desks provides students with time to learn out of their seats. Without being fixed to one space, students can interact with their peers more seamlessly.

III.   Creating Knowledge

Creating knowledge is the process of "divergent thinking, breaking away from the familiar, and establishing ways of seeing and doing" (Scott-Weber, 2004, p. 44). However, a classroom can either enable or hinder creativity in students. According to a study done by Anderson, when individuals were asked what hinders creativity the most, responses stated that the "professor's conventional thinking dominated the hindrance of creativity" (Anderson, 2009, p. 12). Similarly, it is up to teachers to promote such creative thinking; therefore, it is vital that seating chosen by the teacher reflects such an abstract process. So, a teacher may opt to use non-

traditional forms of seating in the classroom, such as bean bags, floor pillows, or couches (McGarrity, 2019). This type of seating may be used for independent reading or writing time and could be found in a classroom library. Here, students should have freedom in dictating which type of seating works best for their personal learning.

IV.   Communicating Knowledge

Students make meaning of their learning when they communicate to their peers what they know; therefore, it is necessary to provide seating that facilitates such discussion. In a study done by Harvey and Kenyon, the results showed that a lack of mobility in seating arrangements minimizes student ability to interact with the instructor and peers (Harvey & Kenyon, 2013). Because of this, it is necessary that educators provide spaces that allow students to practice effective collaboration. Scott-Weber addresses this by stating how communicating is best in an informal environment; thus, arranging seating to reflect a common lounging area, such as a living room, will help students feel comfortable in discussion (Scott-Weber, 2004, p. 65). To craft this space, the teacher may incorporate small couches and comfortable seats, supplemented by small round tables and homey-like chairs to further mirror a relaxed space. For more direct student collaboration, the teacher may decide to include bar-like seating across a wall in the classroom (Evertson & Neal, 2006).

V.   Decision-Making

Though decision-making seems limited to the teacher, students can gain confidence and autonomy through making decisions throughout the school year. In order for such decision-making, it is necessary for the student to have a space where they can feel independent. More specifically, the space should allow for fluid movement, and the leading student should have access to a board to guide the rest of the class (Scott-Weber, 2004, p. 74). For this, the teacher

may include a small wooden stage at the front of the classroom. Here, the student on stage has closer access to the front board, while other students are sitting on a rug or about the classroom (Smedley-Warren, 2015). Perhaps one student is leading a morning meeting while another leads the class in a read aloud in the afternoon; regardless, this type of open seating arrangement highlights one student at a time, further instilling a sense of individuality.

While it may seem like the classroom is too small to incorporate all types of seating, many types of arrangements can be double-dipped. For instance, a horseshoe shaped arrangement of desks could surround a rug that faces the stage at the front of the room. In addition to this, the classroom library towards the back of the room could be flooded with bean bags, floor pillows, and small couches. In the morning, this library could be used for quiet, creative time and later used for collaboration during the afternoon. Making use of seating for various purposes requires tactful thinking from the teacher yet can ultimately maximize learning.

Organization

Organization of materials in the classroom is vital for student success but can hinder performance if left unplanned. In the midst of hundreds of materials that a teacher may acquire, it may seem difficult to utilize organization to serve students. Many educators currently face this issue, viewing storage as merely a task to get done practically rather than intentionally; this has ultimately left the average modern classroom highly visually cluttered (Ashburner et al, 2008). Conversely, the act of decluttering has a positive impact on learning and behavior, as students have a better time concentrating in a space that is clean and orderly (McDowell et al, 2018; Suleman, 2014). Therefore, it is necessary to purposefully organize materials in the classroom, specifically on the basis of availability and accessibility of resources (Roskos et al 2011).

All of the materials available in the classroom should serve a purpose; in other words, the classroom should not be used as a storage room for resources that are unused or in excess. In order to prevent this, teachers should first sift and discard any unused material to begin the decluttering process (Duncanson, 2014). Afterwards, the educator should evaluate the degree of accessibility for various types of resources in the classroom. Organization of such needed materials, "when artfully and intentionally arranged, invite and motivate students to engage productively" (Roskos et al 2011). So, in order to achieve this, materials must be ordered in a specific manner. To begin, materials that will be used on a day-to-day basis, such as pencils, erasers, paper, etc, should be readily available for students. Therefore, open containers, like mason jars, small pails, bookshelves/book boxes, or trays, are beneficial for students to grab frequently needed materials with ease (Wible, 2013). On the other hand, materials that are less essential should be stored in closed containers to diminish visual clutter. This may look like the use of bins, cabinets, or drawers for the storage of content-specific materials, extra hand-sanitizer/tissues, art supplies, etc (Clayton, 2001; Wible, 2013). The educator may also choose to label containers to help guide students towards their desired material, ultimately minimizing excess distraction in the classroom.

Classroom organization is an aspect of the environment that is heavily influenced by the students in the space. Because each individual in the class has a different perception of cleanliness, it is necessary to establish a base standard to keep a unified sense of order (Johnson et al 2005). Therefore, the educator should first set an example of organization, creating student responsibilities that reflect such standards. In doing so, the amount of clutter can decrease with the help of all participants, allowing students to have an increased sense of concentration and productivity over time.

The Third Teacher: An analysis of aesthetic and intentionality of space in the classroom

Color Scheme

An aspect of classroom design that can easily be overlooked or misused is the application of color. Color is powerful in that it shapes the way individuals make sense of a space, eliciting a physiological and psychological response (DeLong et al, 2014; Gaines et al, 2011). Many educators, however, fail to view color selection as a vital component of design, leaving either a dull classroom or a disorderly use of color in the space. Rather, design calls teachers to "examine the total space where colors will be used" instead of as "something that is applied superficially after the fact" (Poore, 1994, p. 22). Because of this, it is important that teachers use purposeful planning when weaving cohesion of color throughout the classroom.

With the aim of maximizing student performance, it is necessary to address specific responses to color that individuals may have. To begin, warm color tones, such as red, yellow, orange, or pink, are associated with activity and stimulation (Clarke et al, 2008). Though warmer tones will essentially increase excitement, the color will also make a space feel smaller (Yildirim et al, 2015). On the other hand, cool toned colors, such as blue, green, or violet are correlated with calm feelings, restfulness, and will inherently make a space feel more spacious and airy (Yildirim et al, 2015). In addition to this, lighter colors are "judged as brighter, friendlier" and "more pleasant" as opposed to brighter and darker colors (Yildirim et al, 2006, p. 3239).

In a room that harbors both energetic and calm activities at various points in the day, it may be difficult to choose a color scheme that serves the ever-changing energy of students. Due to this, it is important for educators to utilize the idea of color combination, or working with multiple colors, to choose the scheme for the environment. Specifically for interiors, research points to the notion that "calm colors are primarily used, but are assisted by exciting ones, which prevents a completely dull impression of calm colors or a completely unstable impression of

20

exciting ones" (Shen et al, 2000, p. 23). Therefore, an educator may choose a cool tone, such as a light blue or green, as a base color, with the accents of coral or yellow. Though the combination of a cool and warm tone color may feel overbearing, the addition of a neutral color will help with cohesion and harmony of the space. For instance, the use of a light gray or cream in the classroom will help blend colors together. The use of a neutral will also help lighter colors stand out, giving off a vivid effect without the use of bright colors (Sherin, 2011).

It is important to note that the use of color is not bound to the wall paint color; rather, the educator has the option of using colors already provided by the school. Since many standard classrooms have white or cream walls, the educator can utilize any neutral provided to blend the decided upon color scheme; and, because the color scheme encapsulates the entirety of the classroom, there is freedom in playing with color throughout seating, decor, light fixtures, etc., all without changing the standard wall color.

Decor

Decoration has the ability to shift a barren room to a space that is appealing to the eye. In a classroom, decoration "plays a part in the ownership students feel about their class" and has been linked to an increase in student performance (Bucholz et al, 2009, p. 2; Cheryan et al, 2014). Therefore, decoration, in its power to communicate messages and values to students, should be used for the benefit of the learners, not simply to the visual interest of the teacher.

Although decor can have a positive impact on the student, the misuse of objects in the classroom can have dour effects. For instance, many classrooms can become cluttered if overdone with ornaments, leaving students distracted (Cheryan et al, 2014). Not only this, but in a cluttered classroom, teachers have a difficult time getting through lessons efficiently (The Share Team, 2020). This does not mean that decoration should be avoided altogether, but rather,

21

it should only be used in careful planning around the classroom. In *The Philosophy of Interior Design*, the author states how "pleasure will be better served if the designer is sensitive to the sometimes subtle connotations of ornaments and patterns" (Abercrombie, 2018). This emphasizes the notion that, although decoration should be used, sticking to simple themes and objects will better serve students.

Though the use of too much decoration can cause distraction, educators can tactfully choose pieces that will be to the learners' advantage. For instance, teachers can make use of aesthetics in order to integrate art into the classroom. By this, the educator would choose pieces simply to enhance the attractiveness of the room (Lajevic, 2013). This may look like small paintings, banners, wall stickers, pillows, etc. In order to enhance the aesthetic, these objects would be related in "shape, color, type of material or purpose" for cohesion and satisfaction (Adler, 1998, p. 4). Utilizing ornaments for this purpose allows individuals to make meaning of the world around them by exposing students to art in a natural manner. More specifically, aesthetics help students ``discover new ways of looking at, listening to, moving in and speaking of their everyday experiences" (Doanne University, 2020). Therefore, integrating specific decor simply to make the space more appealing can enhance students' learning ability.

Not only should the space be decorated for appeal, but the classroom should be displaying the learning that is occurring throughout the school year. To begin, the students should have a clear view of what they are learning that day. Perhaps on a bulletin board or white board, students should be able to see the specific goals of that day, why they are learning about such topics, and how they know when they have achieved mastery. This can be presented in a manner such that students see headers like, "Today I Will…," "So That I Can…," and "I Know I Have It When…" (Almarode et al, 2018). This is important as students take autonomy in their

learning, for they will be able to visibly see the importance of the content they are asked to understand as well as the appropriate steps on how to obtain such understanding. In addition to this, the classroom should be decorated in a way that makes learning more of an immersive process (Room 241 Team, 2017). By this, the bulletin board, posters, etc., should reflect the topic at hand. For example, a teacher may decide to include pictures of metamorphic, igneous, and sedimentary rocks on a bulletin board during a rock unit, yet later switch to pictures of the ocean during the next. Because students are constantly learning, the immersive decor should also be ever-changing.

Decor, when thought of in a home, "reflects our interests, our heritage, our lifestyle" and ultimately are "the things that we cherish" (Adler, 1998, p. 1). Because of such power that decor holds, it is dire that educators utilize decor to promote inclusivity. To begin, the classroom can be decorated in a manner that is overall welcoming and inviting. The use of motivational prints can "encourage emotional well-being" and thus "create an atmosphere for both learning and emotional development" (Bucholz et al, 2009, p. 1). The teacher may also include a mirror in the classroom, perhaps with a line stating, "You matter," or "I can do this," to further promote individuality and encouragement in the classroom. Although it is necessary to encourage an overall sense of warmth and comfort, the classroom should also be decorated to promote a safe area where students feel represented and free from bias. This can be done so through careful consideration of decorative materials chosen, i.e. gender-neutral ornaments (Gershenson et al, 2020). In addition to this, the teacher may opt to decorate the bulletin board based on the current unit opposed to the approaching holiday. Using thoughtful measures such as these promotes the idea that students are valued in the classroom community.

Conclusion

Educators have freedom and choice in crafting a learning environment, yet it is the freedom itself that makes the task seem daunting. Creating a classroom that meets the pedagogical goals of the teacher, is visually appealing, and reaches the various needs of students can be difficult in the midst of various responsibilities that a teacher is accountable for. However, the physical environment ultimately reflects the teaching philosophy of the teacher. One may ask themselves: What is it that I value? How do I want students to feel about themselves? How can I best serve students so that they can reach their highest potential? Making use of the space will, in the end, follow these values, and thus work alongside pedagogy to maximize student performance. It is not the details of the classroom environment that makes the space impactful; rather, it is the thought behind each piece, a teacher who made all decisions with the student in mind.

Bibliography

Abercrombie, S. (2018). *A philosophy of interior design*. Routledge.

Adler, L. (1998). Centerpieces and Table Decorations. Retrieved from
http://www2.ca.uky.edu/hes/fcs/FACTSHTS/HF-LRA.093.PDF

Al, S., Sari, R. M., & Kahya, N. C. (2012). A different perspective on education: Montessori and
Montessori school architecture. *Procedia-Social and Behavioral Sciences*, *46*, 1866-1871.

Alexander, D., & Lewis, L. (2014). Condition of America's Public School Facilities: 2012-13. First
Look. NCES 2014-022. *National Center for Education Statistics*.

Almarode, J., Frey, N., Fisher, D. B., & Hattie, J. (2018, February 15). Visible Learning for Science,
Grades K-12: What Works Best to Optimize Student Learning. Retrieved from
https://us.corwin.com/en-us/nam/visible-learning-for-science-grades-k-12/book258470

Anderson, M. N. (2009, May). Thinking inside the box: Graduate students' perspectives on hindered
creativity. In *Research Conference* (p. 12).

Arseven, A. (2014). THE REGGIO EMILIA APPROACH AND CURRICULUM DEVELOPMENT
PROCESS. *International Journal of Academic Research*, *6*(1).

Ashburner, J., Ziviani, J., & Rodger, S. (2008). Sensory processing and classroom emotional,
behavioral, and educational outcomes in children with autism spectrum disorder. *American
Journal of Occupational Therapy*, *62*(5), 564-573.

Biermeier, M. A. (2015, November). Inspired by Reggio Emilia: Emergent Curriculum in Relationship-
Driven Learning Environments. Retrieved from
https://www.naeyc.org/resources/pubs/yc/nov2015/emergent-curriculum.

Bucholz, J. L., Sheffler, J. L. (2009). Creating a warm and inclusive classroom environment: Planning
for all children to feel welcome. *Electronic Journal for Inclusive Education*, *2*(4), 4.

Cheryan, S., Ziegler, S. A., Plaut, V. C., & Meltzoff, A. N. (2014). Designing classrooms to maximize student achievement. *Policy Insights from the Behavioral and Brain Sciences*, *1*(1), 4–12.

Clarke, T., & Costall, A. (2008). The emotional connotations of color: A qualitative investigation. *Color Research & Application: Endorsed by Inter-Society Color Council, The Colour Group (Great Britain), Canadian Society for Color, Color Science Association of Japan, Dutch Society for the Study of Color, The Swedish Colour Centre Foundation, Colour Society of Australia, Centre Français de la Couleur*, *33*(5), 406-410.

Classroom Seating Arrangements: Poorvu Center for Teaching and Learning. (2017). Retrieved from https://poorvucenter.yale.edu/ClassroomSeatingArrangements

Clayton, M. (2001). Classroom spaces that work. Turners Falls, MA: Northeast Foundation for Children.

Clemes, S. A., Barber, S. E., Bingham, D. D., Ridgers, N. D., Fletcher, E., Pearson, N., Salmon, J., & Dunstan, D. W. (2016). Reducing children's classroom sitting time using sit-to-stand desks: findings from pilot studies in UK and Australian primary schools. *Journal of public health (Oxford, England)*, *38*(3), 526–533.

DeLong, M. R., & Martinson, B. (2014). *Color and Design*. London: Bloomsbury Academic.

Dillon, R. (2018). ROOM FOR IMPROVEMENT: Becoming more intentional about classroom design can help teachers manage behavior, build community, and improve learning. *Educational Leadership*, *76*(1), 40–45.

Doanne University. (2020). Benefits of an Aesthetic Education. Retrieved from https://www.doane.edu/facstaff/resources/cetl-home/arts-are-basic/32485

Duncanson, E. (2014). Lasting Effects of Creating Classroom Space: A Study of Teacher Behavior. *Educational Planning*, *21*(3), 29-40.

Edwards, L., & Torcelli, P. (2002). *A literature review of the effects of natural light on building occupants*. Golden, CO: National Renewable Energy Laboratory.

Evertson, C. M., & Neal, K. W. (2006, June 30). Looking into Learning-Centered Classrooms: Implications for Classroom Management. Working Paper. Retrieved from https://eric.ed.gov/?id=ED495820

Fisher, A., Godwin, K., & Seltman, H. (2014). Visual environment, attention allocation, and learning in young children: When too much of a good thing may be bad. *Psychological Science*, *25*, 1362-1370. doi:10.1177/0956797614533801

Fraser, S. (2012). Authentic childhood: Exploring Reggio Emilia in the classroom. Toronto, ON: Nelson Education.

Fernandes, A.C., Huang, J., Rinaldo, V. (2011). Does where a student sits really matter? - The impact of seating locations on student classroom learning. International Journal of Applied Educational Studies, 10(1), 66.

Gaines, K. S., & Curry, Z. D. (2011). The Inclusive Classroom: The Effects of Color on Learning and Behavior . *Journal of Family & Consumer Sciences Education*, *19*(1), 46–57.

Garcia, K. (2020, March 5). Flexible Seating. Retrieved from https://inside.ewu.edu/managementtoolbox/flexible-seating/

Gershenson, S., & Dee, T. S. (2020, January 31). The insidiousness of unconscious bias in schools. Retrieved from https://www.brookings.edu/blog/brown-center-chalkboard/2017/03/20/the-insidiousness-of-unconscious-bias-in-schools/

Gremmen, M.C., van den Berg, Y.H.M., Segers, E. *et al.* Considerations for classroom seating arrangements and the role of teacher characteristics and beliefs. *Soc Psychol Educ* 19, 749–774 (2016).

Harvey, E. J., & Kenyon, M. C. (2013). Classroom seating considerations for 21st century students and faculty. *Journal of Learning Spaces*, *2*(1).

Higgins, Steven & Hall, Elaine & Wall, Kate & Woolner, Pam & McCaughey, C. (2005). The Impact of School Environments: A Literature Review. The Centre for Learning and Teaching-School Education, Communication and Language Science. University of Newcastle. International Montessori Index. (2019). MONTESSORI MATERIALS & LEARNING ENVIRONMENTS for the home and the school. Retrieved from http://www.montessori.edu/prod.html.

Johnson, D. D., Rice, M. P., Edgington, W. D., & Williams, P. (2005). For the uninitiated: How to succeed in the classroom. *Kappa Delta Pi Record*, *42*(1), 28-32.

Johnson, Leanne. (2019). A Developmental Psychological Analysis of a Montessori Environment.

Kelemen, Gabriela. (2013). THE REGGIO EMILIA METHOD, A MODERN APPROACH OF PRESCHOOL EDUCATION. Journal Plus Education. IX.

Kuijsters, A., Redi, J., de Ruyter, B., & Heynderickx, I. (2015). Lighting to make you feel better: improving the mood of elderly people with affective ambiences. PloS one, 10(7).

Lajevic, L. (2013). Arts Integration: What is Really Happening in the Elementary Classroom? *Journal for Learning through the Arts: A Research Journal on Arts Integration in Schools and Communities*, *9*(1).

Malaguzzi, L. (1945). *Musica contemporanea in terra di Russia*, "La Verità", n. 1.

Malaguzzi, L. (1996). The Hundred Languages of Children: The Reggio Emilia Approach to Early Childhood Education. New Jersey: Ablex Publishing Corporation.

Manera, Lorenzo. (2019). The aesthetic experience in the Reggio Emilia Approach. 13. 129-147. 10.7413/18258646076.

Matin Sadr, N., Haghgoo, H. A., Samadi, S. A., Rassafiani, M., Bakhshi, E., & Hassanabadi, H. (2017). The Impact of Dynamic Seating on Classroom Behavior of Students with Autism Spectrum Disorder. *Iranian journal of child neurology*, *11*(1), 29–36.

Maxwell, L. E., & Chmielewski, E. J. (2008). Environmental personalization and elementary school children's self-esteem. *Journal of Environmental Psychology*, *28*(2), 143-153.

McDowell, N., & Budd, J. (2018). The perspectives of teachers and paraeducators on the relationship between classroom clutter and learning experiences for students with cerebral visual impairment. *Journal of Visual Impairment & Blindness*, *112*(3), 248-260.

McGarrity, M. (2019, April 26). Flex on This! Flexible Seating in the Classroom. Retrieved from https://digitalcommons.iwu.edu/jwprc/2019/ESposters2/5/

Montessori, Maria. (2019). *Education For A New World*. S.l.: AAKAR BOOKS.

Morrow, B. L. (2018). The Effect of LED and Fluorescent Lighting on Children in the Classroom. Retrieved from https://www.researchgate.net/publication The_Effect_of_LED_and_Fluorescent_Lighting_on_ Children_in_the_Classroom (the standard lighting choice in school systems is fluorescent lamps, efficiency...negative human impact

Mott, M. S. (2011). Illuminating the Effects of Dynamic Lighting on Student Learning. Retrieved from http://education.olemiss.edu/download/Philips-Research.pdf

Nicklas, M.G.; Bailey, G.B. (1997). "Daylighting in Schools." Strategic Planning for Energy and the Environment; Vol. 17, No. 2; pp. 41–61.

Poore, J. (1994). *Interior Color by Design*. Rockport, MA: Rockport Publishers.

Room 241 Team. (2017, November 8). Bringing Brain-Based Learning Theories into the Classroom: Resilient Educator. Retrieved from https://resilienteducator.com/classroom-resources/bringing-brain-based-learning-theories-into-the-classroom/

Roskos, K., & Neuman, S. B. (2011). The classroom environment: First, last, and always. *The Reading Teacher*, *65*(2), 110-114.

Samani, S. A., & Samani, S. A. (2012). The Impact of Indoor Lighting on Students' Learning Performance in Learning Environments: A knowledge internalization perspective. *International Journal of Business and Social Science*, *3*(24), 127–136.

Scott-Webber, L. (2004), *In Sync: Environmental Behavior Research and the Design of Learning Spaces*, Society for College and University Planning, (SCUP), Ann Arbor, MI.

Shen, Y., Yuan, W., Hsu, W. and Chen, Y. (2000), Color selection in the consideration of color harmony for interior design. Color Res. Appl., 25: 20-31.

Sherin, A. (2011). *Design Elements: Color Fundamentals*. Beverly, MA: Rockport Publishers.

Sleegers, P., Moolenaar, N., Galetzka, M., Pruyn, A., Sarroukh, B., & van der Zande, B. (2013). Lighting affects students' concentration positively: Findings from three Dutch studies. *Lighting Research & Technology*, *45*(2), 159–175.

Smedley-Warren, G. (2015, January 5). Classroom Stage: How And Why. Retrieved from https://thekindergartensmorgasboard.com/2015/01/kindergarten-smorgasboard-smartboard.html

Strong-Wilson, T., & Ellis, J. (2007). Children and place: Reggio Emilia's environment as the third teacher. Theory into Practice, 46(1), 40-47.

Suleman, Dr. (2014). Effects of Classroom Physical Environment on the Academic Achievement Scores of Secondary School Students in Kohat Division, Pakistan. International Journal of Learning and Development. 4.

Sztejnberg, A., & Finch, E. (2006). Adaptive use patterns of secondary school classroom environments. Facilities, 24(13/14), 490-509.

University of Oklahoma Human Resources. (2020). Sooners Stand for Health - Standing Desk Program. Retrieved from https://hr.ou.edu/Wellness/Healthy-Sooners/Standing-Desks

Warner, Scott & Myers, Kerri. (2010). The Creative Classroom: The Role of Space and Place toward Facilitating Creativity. Technology Teacher. 69.

Whitescarver, Keith & Cossentino, Jacqueline. (2008). Montessori and the Mainstream: A Century of Reform on the Margins. Teachers College Record. 110. 2571-2600.

Wible, C. (2013, July 8). 20 Ways to Better Organize Your Classroom. Retrieved from https://www.opencolleges.edu.au/informed/features/20-ways-to-better-organize-your-classroom/

Winterbottom, Mark & Wilkins, Arnold. (2009). Lighting and discomfort in the classroom. Journal of Environmental Psychology. 29. 63-75.
Wurtman, R. J. (1975). The effects of light on the human body. Scientific American, 233, 68–77.

Yalcin, Meryem. (2018). Relationship of Montessori Approach with Interior Spaces in Preschools and Physical Set-up. MEGARON / Yıldız Technical University, Faculty of Architecture E-Journal. 10.5505/megaron.2018.93276.

Yildirim, K., Akalin-Baskaya, A., & Hidayetoglu, M. L. (2006, October 4). Effects of indoor color on mood and cognitive performance. Retrieved from https://www.sciencedirect.com/science/article/pii/S0360132306002289?casa_token=fImhfhSIIXYAAAAA:dMvdULqxlnp5BvBzH14oSV_t3iSC5uqoDB0raPFsnJD9o3y7Cjd0UW31LKhXaagEVPb8Qk1_slw

Yildirim, K., Cagatay, K., & Ayalp, N. (2015). Effect of wall colour on the perception of classrooms.

Indoor and Built Environment, *24*(5), 607–616. https://doi.org/10.1177/1420326X14526214