Spring 5-21-2021

The Role of Aesthetics in Classroom Design: Implications for Engagement and Equity

Giuliana Barraza
University of San Francisco, gbarraza.gcb@gmail.com

The University of San Francisco

The Role of Aesthetics in Classroom Design:

Implications for Engagement and Equity

A Thesis
Presented to the Faculty of the School of Education of the
University of San Francisco

In partial fulfillment of the requirements for the degree of

MASTER OF ARTS

in Organization and Leadership
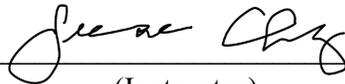
By

Giuliana Barraza

Spring 2021

This thesis, written by

Giuliana Barraza

University of San Francisco

July 9, 2021

under the guidance of the project committee,
and approved by all its members,
has been accepted in partial fulfillment
of the requirements for the degree

MASTER OF ARTS

In

Organization and Leadership

_____

(Instructor)

12 July 2021

_____

(Date)

TABLE OF CONTENTS

Acknowledgements

I want to express my heartfelt gratitude for everyone in my life that has supported me throughout my academic journey. Any accomplishment of mine is a product of the relentless love and encouragement from my incredible friends and family. Thank you for seeing me, validating me, and holding me true to myself.

Thank you to all of my professors from the School of Education at the University of San Francisco for fostering authentic learning environments that challenge me to see beyond my own limited perceptions. To my professors who guided me through this master's thesis, thank you for reading my writing, coaching me with patience, and for believing in my vision for this project. Thank you for always questioning the implications for equity and challenging my conception of equity to be ever evolving.

I would also like to acknowledge the four teachers who were the participants in this research study. Thank you for your generosity of time during a turbulent season in all of our lives, but especially in education. Thank you for agreeing to meet with me and for your vulnerability in sharing your experiences. Your expertise and stories from the classroom have provided valuable data to bring the research of this study forward, as well as contributed to further research yet to come.

Abstract

The desire for achieving greater equity in education has been a prevalent topic of research, with many studies indicating that the current education system in this country is designed in a way that exacerbates initial inequities and has a negative impact on student motivation and engagement (EOCD, 2012, p. 11). While existing scholarship mostly discusses equity and engagement through the lens of curriculum and instruction, the power of physical classroom environments and aesthetic elements present in those environments is less explored. With student populations becoming more diverse, there is a greater need for new tools for teachers to utilize in pursuit of greater equity in the classroom. Through the lens of equity pedagogy, this study examined the role of aesthetics in classroom design and the potential for aesthetic consideration to increase student engagement and equity. This research study examined the ways elementary and high school teachers employ aesthetic tools, and will analyze the similarities, differences, and comparable themes found across their shared experiences. The findings contribute to those of other studies, including the ways in which centering student feelings and integrating multisensory experiences can impact learning. The findings also prompt a new discussion on the connections between student engagement and equity, which looks at factors such as comfort, inclusion, motivation, and inspiration as potential influencers on the overall quality of the learning experience.

CHAPTER I

INTRODUCTION

Statement of the Problem

As calls for social justice rise, discourse around equity-minded teaching has increasingly dominated the field of education (Sadler, 2020). Equity pedagogy, as a branch of multicultural education, challenges teachers to move forward the work of multicultural educators. According to a study by Banks (2001), as cited in Morrison et al. (2008), multicultural educators suggest that teachers who embrace this social justice challenge of providing a democratic and equitable education must teach in culturally relevant/responsive ways or take into consideration and "use knowledge about the social, cultural, and language backgrounds of their students" (p. 433) in order for children to experience school success (or to diminish educational disparities).

Equity pedagogy is defined by Banks and Banks (1995) as, "teaching strategies and classroom environments that help students from diverse racial, ethnic, and cultural groups attain the knowledge, skills, and attitudes needed to function effectively within, and help create and perpetuate a just, humane, and democratic society" (p. 152). While teaching strategies are often discussed when considering equity, classroom environments and the aesthetic elements present in those environments also play an important role. Chan (1988) proposes that in a learning environment of traditional setting, aesthetics aid in enhancing student achievement. Additionally, aesthetics are seen as significant features on student feelings and attitudes, contributing importantly to learning. Curriculum and instructional methods are important for achieving equity, but those efforts are incomplete without the careful consideration of the environmental and aesthetic factors within schools and classrooms (Banks & Banks, 1995).

The human aesthetic experience is the focus of study in various other fields. Some examples include product design (Montazeri, 2013), game design (Dickey, 2015), psychology (Nieminen et. al, 2011), and the Buddhist tradition of Zen (Chung, 2004). Although scholarship in those areas has long examined the impact of aesthetic elements on human behavior, there remains a gap between the ways in which that knowledge has been applied to education and how it is used to pursue greater equity through classroom design. There is insufficient research on how sensory perception impacts learning, how teachers can diversify instruction by eliciting aesthetic experiences, the intersections between product design, game design and educational environment design, or issues of equity within the design of learning spaces. I suggest these gaps in knowledge can be filled by looking at teachers' thinking about aesthetic elements of classroom design, considering the equity implications, and by looking at parallel studies in the field of design on human behavior for applications in the field of education.

Background and Need

In the 2012 Executive Summary of Equity and Quality in Education, the OECD found that students from low socio-economic backgrounds are twice as likely to perform lower than their peers and experience higher rates of dropout. Additionally, schools with higher proportions of disadvantaged students are at greater risk of challenges that can result in low performance. The data suggest that low performing schools lack the capacity or support to improve the environments of schools and classrooms, which results in a failure to provide quality learning experiences for the most disadvantaged students. The report also indicates that current education systems in this country are designed in a way that exacerbates initial inequities and has a negative impact on student motivation and engagement, eventually leading to dropout. Ladson-Billings (2006) also addresses what is widely viewed as an achievement gap between

students of color and their white peers as an "education debt" in that educational opportunities in the United States have historically never been equalized for different groups.

The need for equity in education is urgent and defining equity is imperative to understanding this importance. Though equity can be viewed many different ways, Field et al. (2007) claim that equity in education can be seen through two dimensions: fairness and inclusion. Equity as inclusion means ensuring all students reach a basic minimum level of skills. Truly equitable education systems are fair, inclusive, and support their students to reach their entire learning potential without setting barriers or lowering expectations. Equity as fairness implies that personal or socio-economic circumstances, such as gender, ethnic origin or family background are not obstacles to educational success. An equitable education system rectifies the effects of broader social and economic inequalities. In the context of learning, equity allows individuals to take full advantage of education irrespective of their background (Faubert, 2012; Field et al., 2007; Woessmann & Schütz, 2006).

Classroom design contributes to equity by improving engagement and quality of learning (Sinclair, 2001). The ways in which students perceive their environments shape their learning experience. The felt, sensory, emotional dimension, or the aesthetic dimension, play a central role in determining what proves personally or epistemologically relevant to children. In addition, researchers now argue that all abstract human thinking is metaphorical, based on our sensory-motor experiences (Lakoff & Johnson, 1999) and that humans possess an innate aesthetic sensibility that acts as one of our primary meaning-making capacities in all domains (Dissanayake, 1992; Wilson, 1998). Engagement is the attention grabbing element of teaching and sensory perception is an integral part of attention and memory creation (Ladkin & Sutherland, 2013). According to the results of a 2015 study (Quack et al.), the ways in which

sensory perception affects engagement is significant, and accentuates the impact of aesthetic elements present in the environment. With engagement being so critical in order for learning to happen, Quack et al. stress that this science should be well understood by educators at every level (2015). This rationale elevates the importance of the physical classroom space to be recognized as a critical tool for teachers, and recognized for its power to increase student engagement.

Finally, it is important to frame the student's learning experience as one that is human. Learning is an embodied experience, and to engage students is to mobilize learning spaces through our bodily instinctual power for sensing (Ladkin & Sutherland, 2013). This sensory importance, or aesthetic importance, requires teachers to consider the ways students feel. A key tenet of culturally relevant teaching is creating nurturing and cooperative physical spaces, environments in which students feel motivated to work to their utmost (Morrison et al., 2008). For some ethnic groups, emotionality, variability, novelty, and active participation are important aspects of the learning styles and the ways in which they demonstrate what they know (Gay, 2018). For them, teaching and learning are more than cognitive and technical tasks; they are also active and emotional processes. By attending to the intrinsic aesthetic (George & Ladkin, 2008) of a learning space, teachers are reclaiming the instinctual processes of the human body as an aesthetic sensing, perceiving, and meaning making agent (Buck-Morss 1992; DeNora 2000). In doing so, they are conceptualizing the body, and its inherent aesthetic sense-making capacities, as a teaching technology.

Purpose of the Study

The purpose of this project is to conduct a qualitative study, comparing the perspectives of teachers, in order to examine how they relate aesthetic elements of their classrooms to equity

and engagement. The results of this study will show the current ways teachers consider aesthetics when designing their classrooms, connections they make to equity, and expose barriers that prevent their ideal space from being realized. These interviews will reveal varied perspectives teachers bring to the room design process. I suggest the parallel study against other relevant fields of design that have focused on cultural relevance, human behavior change, and aesthetic engagement. This study will add to existing knowledge in the field of equity pedagogy and suggest new connections between the ways teachers utilize aesthetics in classroom design and their desired result of an equitable and engaging learning environment.

Research Questions

1) How do teachers think about aesthetics in their classroom?

2) What connections do teachers make between aesthetics and equitable student engagement?

3) What barriers prevent the ideal design of equitable and engaging learning environments?

Theoretical Framework

The theoretical foundation of this study is Equity Pedagogy and includes the significance of the physical aspect of learning environments. Equity pedagogy is one of five components of multicultural education. It is uniquely focused on the structural elements of schooling and stresses the importance of environmental factors, which suggest changes beyond curriculum. This section provides a brief history of Equity Pedagogy which includes Cherry A. McGee Banks and James A. Banks's (1995) original scholarship on the essential elements of equity pedagogy, the work of Gloria Ladson-Billings (1995) that conceptualizes Culturally Relevant Pedagogy, and the ideas developed by Neil O. Houser (2005) that elevate the importance of equity in education and introduce aesthetics as an important component. This progression of

thought is important because it demonstrates the importance of aesthetic elements within the physical classroom space and their connection to equity. This theory is used to expand understandings of multicultural education that previously excluded or undervalued the importance of the whole student experience and environmental factors conducive to equity education.

Limitations of the Study

The pandemic state of lockdown and school closures caused more than one limitation to this study. The first limitation was the lack of teachers with available time. The sample of participants in this study were selected for their willingness and availability of time. Some early participants dropped out of the study due to pandemic and work related fatigue.

The collective transition to distance learning has also created video conferencing fatigue. Some participants requested to conduct interviews over phone calls instead of on Zoom, a video conference platform. This resulted in the loss of potential data including facial expressions and views of classroom environments in the background.

Another limitation of school closures was the lack of access to physical spaces. School closures prevented the possibility of visits to the physical classrooms, as well as observations of the larger school setting. Each teacher in the study had been teaching virtually and had not accessed their physical classroom space for almost one year, so the amount of accessible artifacts to share were also limited (photos, visual tools, etc.).

Significance of the Study

Teachers will benefit by reading the results of this study, along with the accompanying literature on this topic that is reviewed in Chapter II. Viewing education as an experience challenges teachers to use aesthetic techniques to excite, inspire, and motivate their students

through the design of their physical learning environment. Aesthetic enhancements and modifications offer significant considerations for teachers in this pursuit of increased equity and engagement. The data resulting from this study will reveal how aesthetics are currently being conceptualized and utilized by elementary and high school teachers, and will illuminate the impact of aesthetic elements on equity and student engagement. As a result of engaging students through aesthetic elements, teachers will be able to support the felt and emotional dynamics of the classroom space.

School leaders and policy makers will be able to support more engaging and more productive classroom environments as a result of this study. When schools abandon their oversimplified conception of learning spaces, they become capable of developing support systems that help teachers incorporate the socio-emotional, developmental, and cultural needs of their students into their classroom settings (Harouni, 2013). In spaces where learning occurs as ideas bounce and build off one another, the "teacher" becomes one voice of many, and the learning emerges from the transformation of the experience brought into the classroom and what is happening within the classroom (Meuser & Lapp 2004). This requires school leaders to be open to new possibilities as meaning is co-created and recreated in conversation with students. School leaders can leverage this opportunity by supporting teachers in the creation of safe holding environments in which learners experience "a climate or culture of support" which they "trust to 'hold' them over time" (Kolb & Kolb 2005, p. 207). Educators' purpose is to shed light on subtle aspects of how these processes are shaped – their aesthetic – not just the preparatory or activity techniques discussed in the realm of curriculum and instruction. Understanding this, school leaders can acknowledge that while content is important, there is something essential about the "feel" of interventions that create engaged learning experiences.

Finally, students will benefit from changes that can result from this study. The spaces in which students learn should be conducive to focus, creativity, and inclusion. Yet, no matter what changes are made to curriculum, spaces that agitate the senses, or perpetuate patterns of oppression, will not yield an equitable learning environment for all students. Preference for an environment leads to motivation to interact with the environment, which leads to learning. Environmental preference is also linked to successful adaptation (Lackeny, 2000). When aesthetics are considered an essential element of modern classroom design, teachers empower students from diverse races, cultures, identities, and ability levels to have meaningful learning experiences.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Aesthetic elements of the classroom have a positive impact on student engagement and equity among all students, and incorporating such elements of sensory perception during the classroom design process may contribute to this positive impact (Dickey, 2015). The body of scholarship that justifies this claim includes three sets of evidence that demonstrate that: (a) It is a point of equity to consider the aesthetic quality of physical learning environments ; (b) The impact of sensory perception on student engagement is significant; and (c) Learning is an aesthetic experience fueled by emotion, interaction, and reflexivity. The theory of equity pedagogy can be used to frame this body of scholarship.

Equity in Aesthetics

The foundational work *Equity Pedagogy: An Essential Component of Multicultural Education* (Banks & Banks, 1995) articulates that efforts towards Equity Pedagogy must include changes beyond curriculum and emphasizes the importance of the physical environment. Banks and Banks conceptualize equity pedagogy as working in tandem with the other key components of multicultural education: content integration, the knowledge construction process, prejudice reduction, and an empowering school culture and physical environment. This thought proposes that changing one aspect of schooling, without attention to each area mentioned above, is not achieving the goal of equity. Banks and Banks (1995) write, "One of the most prevalent misconceptions of equity pedagogy is that the integration of content about diverse cultural, ethnic, and racial groups into the mainstream curriculum is both its essence and its totality" (p. 152). The structure of learning environments, including various elements of classroom design, is

suggested as a critical consideration for teachers. Banks and Banks (1995) argue that, "Teachers who try to implement equity pedagogy without attending to factors such as the physical arrangement of space in the classroom and the control inherent in certain types of physical conditions will rarely experience success" (p. 154). This original scholarship is important because it calls on educators at every level to consider the broader implications of the potentially inequitable power dynamics inherently built into traditional school environments. Banks suggests that "Equity pedagogy challenges the deep structure of schools because its requirements for scheduling, arrangement of physical space, and control are frequently at odds with traditional instructional methods that reinforce the structure of schools" (1995, p. 154). They also stress the importance of the overall school culture, outside of individual classroom spaces. "Equity pedagogy requires the dismantling of existing school structures that foster inequality. It cannot occur within a social and political context embedded with racism, sexism, and inequality" (p. 153). The aesthetic properties of these structures and spaces carry the subliminal power to elicit feelings of safety, comfort, and a sense of belonging. The responsibility of fostering an equitable learning experience for all students is one equally shared by teachers and administrators.

Contributing to scholarship on equity in education, Gloria Ladson-Billings (1995) conceptualizes Culturally Relevant Pedagogy and questions the positionality of the researcher in pedagogical research. By doing this, she directs attention to the need for more collaborative and reflexive research. In her study of the pedagogical approaches of eight exemplary teachers of African-American students, Ladson-Billings provides a way to define and recognize culturally relevant pedagogy. This builds beyond the work of Banks and Banks because she moves the focus from studying the student's culture to looking at the effect of the teacher's cultural biases and how they permeate the learning environment. Physical school spaces, which are often

reinforced by teacher beliefs, can misalign with student cultures and perpetuate student discomfort in the classroom. Ladson-Billings advises teachers to consider the works of sociolinguists and cultural ecologists when thinking about their intersections and classroom adjustments. This addition to the field of Equity Pedagogy is important because it makes connections between physical school spaces and perceptions of student success. Ladson-Billings argues that student "success" is often represented as achievement within current social structures that continue to exist in schools.

> Thus, the goal of education becomes how to "fit" students constructed as "other" by virtue of their race/ethnicity, language, or social class into a hierarchical structure that is defined as a meritocracy. However, it is unclear how these conceptions do more than reproduce the current inequities. (1995 p. 467)

This original work suggests that teachers not only encourage academic success and cultural competence, but they must also help students to recognize, understand, and critique current social inequities, which presumes that teachers themselves recognize social inequities and their causes.

Another contribution to this field of thought is represented by Neil O. Houser (2005) who stresses the need for equity in education and points to the relevance of aesthetics in this pursuit. As he claims, "Educators across academic settings continue to seek ways to prepare students for participation in the development of a more just and caring society and world." This centers equity as a pursuit of justice and an extension of the role educators play to develop caring individuals. This is related to the work of both Banks and Banks because it situates equity education in the center of all educational settings, suggesting a vision for every educational environment. Houser defines equity as, "any form of education explicitly designed to help

students become more critical and caring members of the broader community." It is noted that any form of education, any subject or setting, can provide a basis for equity education, "as long as critical attention is explicitly paid to issues of equity in society at large" (Houser, 2005, p.42). Houser names aesthetics as an important dimension of teacher and student interactions. Houser defines aesthetics as, "creative modes of representation, expression, or critique" (2005, p. 43). Aesthetics relationships focus on issues related to "form and function, power and privilege, art and craft, and process and product." In this sense, aesthetics permeate all aspects of education, not only relevant to art integration. Instruction is a process, often curriculum offers a product, and dynamics of power and privilege are present in teacher and student interactions. This addition to the field of Equity Pedagogy is important because it draws connections between arts, aesthetics, and equity education, which is rarely done. Art and aesthetics are critical to theorizing and implementing equity pedagogy, holding undervalued potential for the design of more equitable learning environments.

In summary, Equity Pedagogy proposes that aesthetic elements of the physical classroom have a significant impact on student engagement and achieving equity for all students. This understanding of Equity Pedagogy is shaped by Banks and Banks' (1995) foundational work on the essential elements of equity pedagogy, Ladson-Billings' (1995) work which conceptualizes equity pedagogy in relation to Culturally Relevant Pedagogy, and Houser's (2005) ideas that elevate the importance of equity in education and introduce aesthetics as a key component. Related to this is a body of research that articulates the impact of sensory perception on student engagement and the understanding of learning as an aesthetic experience. The following sections describe this research and justify the claim that aesthetic elements of the classroom have a

positive impact on student engagement and equity among all students, and incorporating such elements during the classroom design process may contribute to this positive impact.

The Impact of Sensory Perception on Student Engagement

Aesthetic processes are usually experienced as pleasing and rewarding and are, thus, important and valuable experiences for many people (Nieminen et al., 2015). Because of their multidimensional nature, these processes employ several brain areas. Research demonstrates that the impact of sensory perception on student engagement is significant, with specific regard to attention, memory formation, and the embodiment of learning experiences. This research includes (a) a study that illustrates the significance of visual salience and visual metaphors (Montazeri, 2013) (b) a study on working memory, attention, and multisensory processing (Quack et al., 2015), (c) a study that articulates the impact of sound on cognition (Neiminen et al, 2011), and (d) a perspective from the field of game-based learning that provides insight on how teachers can use space to engage students (Dickey, 2014). This scholarship is important because taken together, these studies highlight the significance of integrating aesthetic elements into the physical classroom environment to achieve greater levels of student engagement.

In 2013, Soodeh Montazeri addressed the question, "How can an aesthetic property, like color, afford product-driven sustainable behaviors through a persuasive intuitive system?" Montazeri and his team studied implicit environmental cues and analyzed corresponding behaviors according to the amount of visual salience that those cues possess. They sought to identify which design principles or elements might be used as peripheral cues to trigger the desired behavior (2013). The results of this study frame visual salience as a peripheral route to persuasion and suggest that designers can use color, and other distinguishable factors, as tools to make an environmental cue to the behavior more salient. Results indicated that designers can

make products or cues more salient through color, contrast, shape, and texture. Notably, cultural and situational factors can also influence the perceived salience of objects (Montazeri, 2013). These findings are important because they confirm the role played by design principles as peripheral cues in steering underlying mechanisms of behavior change, which also has implications for behavior, including learning, in classrooms. Relevant to Montazeri's research around visual engagement is the combination of more than one sense being stimulated at the same time. To better understand this, it is important to include research on the impact of multi-sensory experiences on memory and attention.

In *A Multisensory Perspective on Working Memory* (2015), Quack et al. discuss the relation between working memory, attention, and multisensory processing. This study was designed to examine the effect of visual, auditory, and audiovisual cues on working memory for arrays of colored squares in a change detection task. The cross-modal and modality-specific cues could either capture attention towards the hemifield (half of the visual field) which contained the to-be-remembered objects, or towards the opposite hemifield which contained the to-be-ignored objects. In this context, cross-modal means combining two or more sensory modalities and modality-specific refers to the use of only one. After conducting this study, they found that the cross modal or audiovisual cues had a larger influence on performance accuracy than modality-specific visual or auditory cues. Memory accuracy was increased when an audiovisual cue was presented on the same side as the target and it was decreased when the audiovisual cue was presented on the opposite side. Both the facilitation and impairment of memory performance was larger for audiovisual cues compared to visual cues. These data show that multisensory information has an effect on the subsequent memorization of a unisensory object. The results of this study provide evidence of interaction between multisensory integration and attention. It was

found that working memory is in essence multisensory, and this must be taken into account to achieve a realistic understanding of how working memory processes maintain and manipulate information (Quack et al., 2015). In other words, multisensory experiences enhance learning in the classroom by capturing attention and making lessons more memorable.

Similar to the findings of Montazeri (2013), and Quack et al. (2015), Nieminen et al. (2011) addressed the underlying neural and psychological properties of aesthetic responses to music. Basic music perception skills allow for any individual to have an aesthetic response to music. Aesthetic responses to music appear to develop early in life and seem to activate subcortical brain areas (2011). These skills apparently form a basis for more culture-specific learning and aesthetic understanding later in life. According to this study, an aesthetic experience originates from the perceptual, cognitive and affective analyses of a stimulus, and leads to several outcomes including aesthetic judgements (e.g., "This piece of art is beautiful."), aesthetic emotions (e.g., awe, nostalgia, and enjoyment), conscious liking or preference, and aesthetic taste (p. 1138). Both cognitive and affective responses are interconnected and constantly interacting as parts of the aesthetic processing (Baldwin, 1911; Leder et al., 2004; Neperud, 1988). To further examine the cognitive impact of aesthetics across diverse individuals, this study also examined the neurological processing of taste and preference. Findings indicated that aesthetic perceptions are rather unique in the sense that they are usually experienced as very pleasing and are often related to the concept of beauty. Perceptions of beauty are a common theme in aesthetic studies, often referring to the ways aesthetic judgements are made and their implications on emotional or behavioral responses. When applying an equity lens, we are challenged to consider how perceptions of beauty differ among cultures and ask which cultures dominate these concepts of beauty. The results of this study demonstrate that the neurological

response to music activates higher brain structures, voluntary intermodal processes (such as retrieval from long-term memory), and the development of aesthetic judgement, aesthetic emotions, and aesthetic taste. This study, along with those previously discussed, are underscored by the notion that aesthetic experiences are multidimensional and include inter alia sensory, perceptual, affective, and cognitive components. The implications are that auditory elements of the physical classroom can affect emotional and behavioral responses, as well as contribute to student perceptions of themselves, others, and instructional content.

Similar to the findings of Montazeri (2013) and Nieminen (2011), Michele D. Dickey (2015) addressed how aesthetic elements of games can inform game-based learning. She specifically looks at player positioning, game mechanics, character design, narrative design, and environment design. She points out that environments are often created according to the agenda of the game designer, without players being aware of those intentional elements of the environment. Elements of game settings play an important role in the overall experience of the player, whether on a conscious or subconscious level of their awareness. "A game setting can be defined by physical, temporal, environmental, emotional and ethical dimensions" (Dickey, 2015, p. 104). It is important to note that physical space is also defined by the boundaries, whether micro or macro. "For board games such as chess, the boundaries are typically the edge of the board; however, for larger game space settings, the boundaries may be architectural (such as rooms, walls, buildings) or environmental, such as water, land or even planets" (p. 104). Michele D. Dickey uses *Fundamentals of Construction and Simulation Game Design* (Adams, 2014) as a backdrop for the rationale of this chapter on Aesthetics and Environment Design. According to Adams (2014), "the environmental dimension delimits both the game environment's appearance and atmosphere. … Although the focus of the environmental dimension is visual, it also outlines

the cultural context and supports the backstory of the game" (p. 105). This dimension is perceived through the senses of the player. It's illustrated through the use of color, lighting and texture, use of objects, sound design and even extends to the supporting materials such as interface or documentation. This research demonstrates that settings play a significant role in cognitive apprenticeships and in situated learning. "Situated learning is based on the model of situated cognition in which knowledge is contextually situated and is fundamentally influenced by the activity, context, and culture in which it is used" (p. 107). This opposes traditional schooling in that it takes context into account, rather than separating what students learn from how it's used. In situated learning, "knowledge is both simulated within a context and culture and developed through ongoing authentic activity" (2015, p. 107). Dickey implies that designing environments as contexts for an experience is the goal of aesthetic design for learning. "Whether one accommodates or creates it, context must contribute to the cohesiveness of the learning experience by reinforcing all its components...insight can be gained from exploring ways to create context to enhance learning" (2015, p. 106). The goal is to create a rich context for learning, which can be leveraged by intentional design.

In summary, research demonstrates that sensory perception impacts student behavior, mood, and engagement. This includes (a) Montazeri's (2013) demonstration of utilizing visual salience when designing for behavior change, (b) the articulation by Nieminen et al. (2011) of the aesthetic responses to music, and (c) the scholarship of Dickey (2014) that directs teachers to look towards intentional environmental design. Taken together, this body of research justifies that in order to create an engaging environment, teachers must utilize existing knowledge of how sensory perception impacts learning. Related to this is the importance of conceptualizing learning as an aesthetic experience that naturally occurs in every student.

Learning as an Aesthetic Experience

Scholarship demonstrates that the process of learning is an aesthetic experience. This includes (a) a foundational work on the aesthetic nature of experiences (Dewey, 1934) (b) a study that articulates the power of aesthetic agency, which reclaims the body as a meaning making agent (Ladkin & Sutherland, 2013) and (c) a perspective on Zen that connects human perception to meaningful learning (Chung, 2004). This is important because taken together, these studies highlight the importance of the felt aspect of learning, which prioritizes emotion and humanity.

In 1934, John Dewey addressed the aesthetic quality of an experience. Dewey claims that aesthetic quality is emotional, and that no experience has unity without an aesthetic quality. In an analysis of Dewey's work, Tom Leddy (2016) writes,

> To Dewey, emotions are not static entities with no element of growth. When significant, they are qualities of a complex changing experience, of a developing drama. Aesthetic experience involves a drama in which action, feeling, and meaning are one. The result is balance. (Section 2.3)

This is an important consideration in education because the experience of learning involves this balance of action, feeling, and meaning. According to Dewey, an aesthetic experience involves (a) memorability: distinguishable, stands out from what went before and after; (b) flow: parts flow seamlessly to a holistic whole; (c) Unity: unity in the parts is constructed through the emotions experienced; and (d) consummation: a culmination of the events leads to a consummation. These elements combine to create an experience that elicits feelings, makes meaning, and is remembered. Another aesthetic quality of experiences is the interaction with a surrounding environment. "For Dewey, experience should be understood in terms of the conditions of life. Life goes on not only *in* an environment but in interaction *with* that

environment." (Leddy, 2016, section 2.1) This concept of interaction with the environment prioritizes the humanity of individuals. According to Dewey, the "live creature" interacts with the environment for survival; it is essential, instinctive, and can happen on a subconscious level. Dewey argued that experience is not only the result of interaction of an individual and the environment, but it is also the individual's reward when it transforms interaction into participation. Meaningful experiences, such as learning, are derived from such interaction and participation. This is related to the work of Ladkin and Sutherland (2013) in that the experience of learning is tied to the embodied experience of the student.

Similar to the ideas of John Dewey (1934), Ladkin and Sutherland (2013) addressed how educators create, "deeply engaged learning spaces where conditions are ripe for participating actors to actively share and connect ideas, experiences and stories to enrich the learning of all" (p. 106). Ladkin and Sutherland argue that although increased attention has been brought to experiential learning, the role of the body as an aesthetic meaning-making interface is largely neglected. Ladkin and Sutherland studied how teachers use aesthetic agency, both explicitly and implicitly in their teaching. The data in this study included two 3-hour long audio recordings of teaching sessions conducted by each of the authors. The recordings were analyzed by their auditory characteristics, using a music-metaphorical language specifically designed for this study. Based on preconceptions of what was aesthetically occurring in learning spaces, Ladkin and Sutherland developed the following categories for analysis:

1) Tempo: the rhythm and pace of engagement and interaction

2) Tuning: the degree to which those involved in a learning intervention were aligned

3) Timing: how long certain passages were "held"

4) Dynamics: the relative levels of participants' vocal performance in the classroom

and how the learning "volume" was managed. (2013, p. 110)

Using these music-metaphorical concepts, Ladkin and Sutherland attempt to name what was happening in the learning environments. The audio analysis found that teachers were doing things in the classrooms that they were not aware of. There were things they did out of instinct or reflex, but without conscious awareness. Ladkin and Sutherland argue that this reveals an underlying aesthetic agency that teachers employ naturally. Teachers enter classrooms with predetermined plans and goals, but ultimately enact them through highly subtle, instinctual actions, responsive to an ever unfolding learning environment. To deal with this perpetual state of flux, teachers rely on their abilities to read, understand, and act in response to aesthetic stimuli that they perceive in real time (2013). "We are using our bodies as teaching technologies replete with instinctual processes of aesthetically sensing, perceiving, and meaning making to inform action within the sphere of the intrinsic aesthetic" (p. 121). Given the nature of an aesthetic experience itself, as an embodied, felt phenomenon, it is difficult to find ways into researching and describing this aspect of social space. This study is significant in its attempt to develop a method and language for exploring the aesthetic dimension of the classroom experience. The results of this study demonstrate that the intrinsic aesthetic nature of teaching is parallel to the fundamental nature of learning.

Similar to the findings of Dewey (1934) and Ladkin and Sutherland (2013), the experiential aspect of learning is addressed in Gene Diaz and Martha McKenna's book *Teaching for Aesthetic Experience: The Art of Learning (2004)*. Sheng Kuan Chung authors a chapter entitled "Zen and Aesthetic Education." This scholarship connects the natural human experience to the learning experience because at its foundation, Zen is about the experiential (Chung, 2004). This human experience is rooted in the senses, which is why Chung (2004) argues that

meaningful learning can only occur through the awakening of those aesthetic properties. While knowledge attainment is traditionally viewed as being acquired through books, lectures and other less kinesthetic forms, the discipline of Zen attempts to "awaken the human being to better utilize their sensory faculties" in order to develop a more meaningful, intuitive insight (p. 35). Teaching for the aesthetic experience of learning opens the consciousness of students, prompts reflection, and fosters imagination and creativity. This is where true wisdom is able to be acquired. It is important to note the challenge of defining Zen, because as Chung describes, to define Zen would be as difficult as trying to define the nature of human existence (p. 34). In its simplest form, Zen is about living freely, meaningfully, and with the keen awareness of interconnection with everything in existence. Although living in the true lifestyle of Zen requires significant dedication and practice over time, the principles related to experiential learning are directly correlative to the impact of aesthetics on student engagement. Zen implies that if an event is able to stimulate students to respond spontaneously and attentively, then that is a natural way, and any event that is able to do so must contain an aesthetic quality (Chung, 2004). To the eye of Zen practitioners, daily experiences are all aesthetic experiences, dependent on the functioning of the mind and human senses. The aesthetic experience affects one's mind to contemplate and reflect, while the non aesthetic experience lacks such possibility. Aesthetic experiences that possess the characteristics of asymmetry, simplicity, naturalness, and tranquility can be the critical agents that enable students to be calm, perceive, maintain, and illuminate their minds. With such aesthetic experiences, the students will be able to listen, feel, sense, hear, and smell not only their inner selves, but the phenomena and events around them. Chung (2004) believes that with such imaginative and sensory experiences, students will start seeing things with full sensitivity whenever they encounter an object or a daily event. They will begin to recall

their innate sensory capacities to understand any given phenomenon and eventually realize their worth as human creatures. The implications of this scholarship remind teachers of the extreme relevance of sensory perception to their students' learning experience. How to live one's life fully, spontaneously, and aesthetically is undoubtedly a challenge for contemporary people, but principles of Zen, and aesthetic education (Chung, 2004), imply that it is the teacher's responsibility to direct pupils to realize their inborn values through these aesthetic encounters.

In summary, scholarship demonstrates that learning is an aesthetic experience. This scholarship includes Dewey's (1934) theories of the aesthetic experience of life, Ladkin and Sutherland's (2013) articulation of the aesthetic nature of teaching and learning, and Chung's (2004) review of the Buddhist tradition of Zen. Taken together, this body of research justifies the importance of emotion and human nature as essential components of an engaged learning experience.

Summary

This literature review claims that aesthetic elements of the classroom have a positive impact on student engagement and equity among all students, and incorporating such elements of sensory perception during the classroom design process may contribute to this positive impact. The three areas of research supporting this claim convey that (a) it is a point of equity to consider the aesthetic quality of physical learning environments; (b) the impact of sensory perception on student engagement is significant; and (c) learning is an aesthetic experience fueled by emotion, interaction, and reflexivity. This claim and body of evidence addresses the problem of insufficient research on how sensory perception impacts learning, how teachers can diversify instruction by eliciting aesthetic experiences, the intersections between product design, game design and educational environment design, and issues of equity within the design of learning

spaces. With my thesis, I propose to reveal current ways teachers consider aesthetics when designing their classrooms, connections they make to equity, and expose barriers that prevent their ideal space from being realized.

CHAPTER III

METHODOLOGY

Restatement of Purpose

As demands for social justice rise, multicultural education challenges teachers to provide equitable learning experiences in order for all students to prosper. While curriculum and instruction can enhance equity in schools, aesthetics elements of the physical classroom space are underutilized by educators. This problem of not tending to the aesthetic dimension of classroom design prevents students from taking full advantage of the education experience. This is especially important in regard to recent studies proving the connection between sensory perception and engagement, and evidence that for some ethnic groups, learning is an active and emotional process, which goes beyond cognitive and technical tasks (Gay, 2018). Scholarship on cultural relevance, human behavior change, and aesthetic engagement has exposed the potential for change in educational practice. The results of this study will reveal ways teachers currently employ aesthetic elements when designing their classrooms and what connections they make to equity. Shared findings will also expose common barriers that prevent the ideal classroom space from being realized.

In order to gain a better understanding of the ways teachers implement aesthetic elements to increase engagement and equity in their classrooms, the following questions guided this research:

- How do teachers think about aesthetics in their classroom?
- What connections do teachers make between aesthetics and equitable student engagement?
- What barriers prevent the ideal design of equitable and engaging learning environments?

By conducting these interviews, gathering significant statements, and through the final findings of this study, information is more readily available about how teachers utilize aesthetic elements in their pursuit of equity and increased student engagement in their classrooms. This might lead to increased study of the significance of sensory perception, the power of aesthetics to engage diverse learners, and the illumination of common barriers teachers face in creating the ideal learning environment.

Research Design

This study uses a case study methodology, which is a research approach in which one or a few instances of a phenomenon are studied in depth (Blatter, 2008). The use of interviews with a small sample was intended to capture the lived experience of teachers that work at the elementary and high school level, and have control of the design of their designated classroom space. The advantage of using this method of data collection is that it allowed the researcher to ask about the topic directly. The purpose of this methodology was to listen to the experiences of teachers that are navigating challenges related to equity and student engagement, and learn how they consider the aesthetic impact of their physical classrooms.

Population and Sample

This research study was conducted virtually, with the researcher being located in San Francisco, California. Participants were part of a small sample which included four active teachers in the state of California. This group of participating educators represents varied experience in the classroom and diverse perspectives on the topic of this study. The sample of participants were selected based on factors of convenience. To qualify for this study, participants were current elementary or high school teachers and responded to requests for interviews. Each participant expressed their availability for a one time, sixty minute virtual interview. It was

intentional to include both elementary and high school teachers in this study for the purpose of comparison. The sample is evenly split with two elementary teachers and two high school teachers. To protect their anonymity, pseudonyms were assigned to each participant and they will be referenced as such during the findings and discussion of findings in Chapters IV and V.

Characteristics of Participants

Characteristic				
Pseudonym	Bianca	Alice	Hayley	Greg
Grade	Kinder	5	10	11
Experience (years)	3	7	2	20+
School Type	Public	Magnet	Charter	Continuation
Region	Orange County, CA	Venice Beach, CA	Sylmar, CA	Napa Valley, CA

Data Collection

For this study, the researcher engaged in qualitative research by conducting one-on-one interviews with four participants over phone and video calls. Interviews ranged between 45-75 minutes, with prewritten questions related to classroom design, student engagement, and structural barriers. The participants were recorded using Apple Voice Memos or Otter.ai web-based recording service for transcription purposes. Recordings were later processed by the Otter.ai speech-to-text transcription service.

This study design included a semi-structured interview protocol (see Appendix A) with questions pertaining to three categories: teaching background and basic pedagogical philosophies, perceptions of student engagement, and barriers to the ideal classroom.

Semi-structured interviews are a qualitative data collection strategy in which the researcher asks

a series of predetermined but open-ended questions (Ayers, 2008). This allowed the researcher to

have more control over the topics of the interview than in unstructured interviews. The

semi-structured interviews included ad lib questions outside of the established interview

protocol. This allowed for the researcher and participants to have an authentic dialogue. The

interview data was interpreted according to emerging themes and repeated sentiments expressed

by multiple participants. The validity of the analyzed statements can be traced back to the

transcription and the idex document that followed each transcription.

Data Analysis

After interviews were conducted in the data-gathering stage, statements were analyzed

for repetitions, connections, commonalities, and differences across interviews. Common themes

emerged from similar statements made by multiple participants. Descriptions of significant

themes are included in the final findings of the study.

Since the only source of data was collected via interviews, participant's statements were

transcribed from the audio recording and reviewed individually. Each interview transcription was

indexed according to the timestamps of the conversation. After reviewing the interview data and

notes about what emerged during the interviews, the indexing process began. The index

document for each interview was organized chronologically by the transcript and included

abbreviated descriptions of what was being discussed during every minute of the interview. This

process forced the data to be accountable to both the each interview transcript and the each

interview index. The interviews were then analyzed collectively to derive common themes. After

the first two interviews, first impressions were recorded by the researcher in the first Analytic

Memo. Impressions from the final two interviews, in combination with the prior analysis, were then recorded in a second Analytic Memo.

Throughout the data collection and analysis, it was essential to ensure that themes were generated out of the participants' words, frequency and significance, rather than that of the researcher, to ensure findings were valid. The process of indexing each transcription allowed the researcher to verify connections between specific interview data and potential emerging themes.

Plan for the Protection of Human Subjects

This research project was approved by the Institutional Review Board with blanket protocol IRB Protocol #1438 (see Appendix B), ensuring the protection of subjects is integral to the research process. In order to maximize comfort and convenience for each participant, the researcher asked when and how they would feel most comfortable being virtually interviewed for 45-60 minutes. Participants were given an informed consent form, to approve via signature that stated the purpose of the study, the topic covered in the interview process as well as their expectation of confidentiality. The benefits of participating were also discussed, including being able to share their personal experience and contribute to the field of existing knowledge.

Researcher's Background

The researcher is an independent professional working in the field of education. The majority of her work serves community organizations, although she has also served as an elementary school teacher in the early years of her career. Her educational background is in the performing arts and music education, which informs and guides her interest in the phenomenon investigated in this study. She is not religious but holds strongly to her cultural roots and believes in the empowerment of underserved and vulnerable communities. The researcher acknowledges that she could identify with the participants and made sure that she did not impose her values or

opinions on the participants during the interviews. The researcher is able to set aside her own understanding of the subject of investigation and open her mind to understand and listen to what is told to her by the participants.

CHAPTER IV

FINDINGS

Introduction

For this study, the researcher engaged in one-on-one interviews with questions related to classroom design, student engagement, and structural barriers. The purpose of this research methodology was to listen to the experiences of teachers that are navigating challenges related to equity and student engagement, and learn how they consider the aesthetic impact of their physical classrooms. Statements were analyzed for repetitions and connections found across the data so that common themes could emerge from similar statements made by multiple participants. Data presented in this chapter represent the collective findings of the four interviews.

The structure of this chapter will reflect findings according to each of the three research questions. Under each question, the researcher has identified phenomena that emerged from the collective data. Features of the phenomena will be included within each category, along with direct statements from participants that exemplify the conclusion of each phenomenon.

How Teachers Consider Aesthetics in the Classroom

Student Comfort and Safety

The first consideration of aesthetics reported in this study is the way students feel while they're in the classroom, most prominently feelings of comfort and safety. Each of the four participants believe students learn best when they feel comfortable and safe. Their statements of how use of space contributes to student feelings create the feature of this phenomenon: the teacher's use of space. This includes desk arrangements, avoiding clutter, and consistency. The

following section will explore this phenomenon of student comfort and safety, delve further into the correlating features and aim to answer the research question above.

The data collectively indicates that desk arrangements play a role in how teachers influence student feelings. One element of this, as stated by Hayley, is the importance of students seeing each other. Desks that are oriented inward allow students to see each other, e.g. circles, pairs, groups. The benefit of this is that students can see the faces of their peers, make eye contact, and interact with one another more feasibly and frequently. Over time, students begin viewing each other as resources and tools for enhancing their learning experience. Hayley included that this contributes to the overall aesthetics of the environment:

> Sometimes they're working on independent stuff, but what that means is that students have the opportunity to look at someone across the table and they can utilize each other to ask questions. By thinking of each other as resources in the classroom and as part of their learning experience, I hope to create an environment of respect.

Both Hayley and Bianca reported that their students seemed more comfortable in communal desk arrangements and developed habits of a respectful community. Having students face one another in a circle, horseshoe, or small group was effective in cultivating an interactive and comforting space. In Hayley's experience, "there is no one looking at somebody else's back. We can all see each other's faces. And I think that humanizes the experience of having a discussion and being in an environment together." She also mentioned that the arrangement of space impacts the energy in the room. Gathering energy in the center of the classroom allows for collective encouragement and a more active discussion.

Another design consideration that was expressed as an aesthetic benefit is having flexible seating. Through modular furniture or a variety of seating options, some participants had

students display an increased sense of agency by being permitted to choose the seat of their liking or even when they may sit in which area. This element of preference connects their physical comfort to their emotional comfort. Alice expressed that she thinks allowing students the physical space to learn, move around, and to have some agency in the spaces that they use contributes to overall comfort, thereby also contributing to feelings of safety.

Avoiding clutter in the classroom was an important aesthetic consideration to most participants. Bianca's philosophy is that everything inside classrooms should serve a purpose. In Alice's opinion, more empty space in the room results in more calm feelings. In her experience,

> Having space to move around in a classroom makes it feel happy and good. We can move around, we can play more games and students can lay out on the ground. No one wants to feel cramped or agitated by not enough empty space in the room.

This perspective centers the students' needs, as opposed to the teachers' needs. Hayley shared that while she can handle her own clutter, she doesn't feel it serves the needs of her students. "I like to have a lot of things, but I don't want it to be overwhelming. So that includes how I set up the desks, where I set up students supplies and my own stuff. I try not to have my things on the countertops or papers everywhere because that kind of clutter, it's not helpful for the students." These examples of how clutter impacts space centers the students' feelings, which allows teachers to positively influence the aesthetic dimension of the classroom.

Aiming for consistency in the classroom is not only an aesthetic pursuit, but it is also a consideration of equity. Examples from this study include consistency in behavior, routines, language, and expectations. Most of the participants in this study felt that keeping the room and themselves organized reinforced an idea in students' minds that everything has a designated place and serves a purpose. Because this affects student feelings, behavior, and mood, it is

considered an aesthetic element at play within the space. Bianca's students are mostly low-income and in her view, "for students to feel safe, they need to feel that there's consistency in the area where they learn." In her experience, students from marginalized backgrounds can often lack consistency at home. As she pointed out, "they don't always know what somebody showing up for them every day looks like, so just being there and being consistent lets them know you have their back." Providing a consistent physical environment aesthetically contributes to the physical space, potentially impacting learning.

Teacher's Placement and Positionality

The second phenomenon that emerged about the use of space was the connection between the teacher's physical placement in the room and their structural positionality. Teachers believe student feelings can be impacted by the identity of the teacher's body and where that teacher is placed in the room. In this study, participants discussed placement and positionality as interconnected because their individual sociopolitical identity, along with the sociopolitical nature of the role of teachers, affects how their placement is perceived by students. Those who expressed caution over their location in the classroom acknowledged that it's both their own identity and the naturally assumed authority as teacher that likely impacts how students feel about their movement around the room. Two participants specified that they prefer not to stand in front of the room because they want to avoid imposing an authoritative stance. As one shared, "I personally don't like being in the front of the classroom because it doesn't feel good. I try to think about how I can facilitate what's going on and maintain the environment without being in the front as if I'm an authority figure." They explained that their societal power as a white person compounds with their institutional power as the teacher in the room and in their experience, imposing an authoritative stance has led to negative student feelings.

To Hayley, placing student resources away from the teacher and closer to student access areas contributed to student accountability and independence over time. This is one way she aims to decentralize herself as the holder of power, knowledge, or resources. For Bianca, who teaches kindergarten, her young students are used to having parents to do things for them, so she sees it as her duty to reveal the knowledge and power they hold within themselves. For her, the physical classroom helps her achieve a more equitable environment by decentralizing herself and placing the power back onto her students. This utilizes the aesthetic opportunities in the room by allowing more interactive elements to be woven into the physical environment.

Connections Teachers Make Between Aesthetics and Student Engagement

Multi-Sensory Engagement

Under the second research question emerged the phenomenon of engaging students through multi-sensory experiences, which teachers primarily defined as mixing auditory and visual elements in their classrooms in order to achieve a desired student response. When multisensory components are embedded into the physical environment, it provides opportunities for increased engagement. Each of the four participants gave examples of how they integrate aesthetics through multi-sensory engagement.

Hayley shared an example from her classroom, "One thing that I started doing with my creative writing students last year was listening to lo fi playlists on YouTube because it combined the audio and visual. It was music, but it was usually paired with some kind of animated picture." In this case, the combination of audio and visual stimuli is intentional. Hayley shared her thoughts on why she does this,

> I found that sometimes it just helps to look at things when you're writing, it just brings
>
> ideas to your brain. Sometimes it just helps to stare at stuff. So I like giving them

something to look at, and also something to listen to, so I could incorporate both audio and visual for that added effect.

Participants recalled deeper engagement during lessons that utilized multisensory components. As Hayley found, "A lot of what students see is accompanied by music, like tik tok, or Instagram videos, it's just something that they kind of connect to, and that draws them in."

Statements about multisensory learning experiences included potential for increased access to lesson content. One way to activate multiple senses simultaneously is to use multimedia technology. In Greg's classroom, these tools are embedded into the physical classroom space because his lessons regularly include the use of multimedia. Greg uses LCD screens for multimedia integration because he has seen students engage more with the audio and visual elements in combination. As he explains, "I can get students to engage by using a multimedia powered touch screen. I also have two other LCD screens that I use for nonverbal communication to the students. I've always believed in nonverbal communication, that is something I've pioneered at my school." In Greg's classroom, three large screens are positioned at the front of the room. The first screen shows a video (with audio) with the content from the informational text, the second screen displays the informational text and the third screen projects an app that students can interact with in live time and indicates when they hand in assignments within designated time frames.

Targeted Engagement With Marginalized Students

Participants were asked how they ensure equity is at the forefront of their classroom design and use. The responses followed a pattern of participants sharing different ways they aim to help students from marginalized groups feel a sense of belonging in their classrooms. In the pursuit of equity, some participants shared strategies that involve the design and cultivation of

the physical classroom environment. Key features of this phenomenon include visual representation in the space and the habit of empowering students through use of space.

The first feature, visual representation, is the inclusion of symbols, physical objects, and salient features of the classroom. Most of the participants gave examples of intentionally displaying content representative of different cultures, backgrounds, and identities. Two of the four participants shared that they carefully consider which content they display on walls. Hayley shared that she tries to not exclusively feature white male figures and instead features a variety of content from many cultural backgrounds. Bianca shared that she displays the rainbow flag on her desk as a signal to students from vulnerable social groups, assuring them to feel welcome and safe in the classroom.

The second key feature is that some teachers prioritize building confidence and independence in their students in pursuit of greater equity. In Bianca's interview, she explained that since students from marginalized groups are historically viewed as less capable, reminding students of the power they hold within themselves is paramount to their ability to meaningfully engage. She gave some examples of how she uses space to individually encourage students and acknowledge their strengths. As she explains, "you know, you say good morning to every student that walks in, not just the ones that happen to walk by you. You go out of your way every time they walk in, you make sure they're getting seen and recognized." Bianca included that she likes to circle the room and pull up a chair to sit with students at their tables. She also embeds independent work time into class time regularly so that she can move around the room to check in with students individually. In Alice's interview, she mentioned that giving students agency to choose where they work and what that looks like contributes to their empowerment and increases

their access to their education. In her example, she described a student of hers with ADHD that worked best while moving freely around the furniture.

> That allowed him to be successful because he could access the curriculum, he just couldn't sit in the seat. And I don't think that I'm like a brilliant angel that I let him do that, I had to figure that out and let go of the piece of me that felt like, this isn't what a classroom looks like, because that was my ego and that was not serving him.

Building confidence and independence in students works in tandem with building self empowerment, which is especially important for students from marginalized backgrounds. Features of the physical space that lead to independence include interactive elements and pieces of the room that are designed for the purpose of a routine. One of the schools featured in this study is an AVID school, which means there is an elevated focus on building life skills. "AVID, an acronym for Advancement Via Individual Determination, is an "untracking" program designed to help underachieving students with high academic potential prepare for entrance to colleges and universities" (Tools for Schools, 1998). Because of this, the AVID school classroom is designed intentionally for empowering students through strategies such as color coding, organization, and habit formation through repetition. One example of this is what Bianca calls the "Daily 5". This is a self regulating, student-led activity structured by color sequence and procedural design so that students remember each step and learn to repeat it independently of the teacher. Once this procedure was established, Bianca noticed that the classroom started running itself.

> Each kid has a cubby with all their materials and they know when they're done to put their work in their cubby, stand behind their chair and that I will check it later. You know, they have to understand why those things are in place. Especially when there are some

students that need more attention, I had to rely on the rest of the class to kind of run

themselves. They knew which activity, they knew which level they were at, and so they

would go grab what they needed, they knew where to put it back and they knew what to

do when they're done.

Bianca made it clear that establishing this system took a lot of work but that it's worth it in the

end. Each of these examples of student empowerment speak to the ways in which these

participants aim to increase equity in their rooms. This strategy, along with visual representation,

represents the main phenomena of targeted engagement with marginalized students. Targeting

engagement involves considering how the space is being used and how students are feeling while

in the room.

Barriers to the Design of Ideal Learning Environments

Teachers Must Work Within the Provided Parameters

Naturally, teachers are expected to operate within the space they've been provided by

their school. This phenomena came up as a limitation during each interview when participants

were asked what prevents them from their ideal classroom design. Their statements include

examples such as room size and student-teacher ratio, funding and access to resources, and

pre-existing qualities of the space. Because of these barriers to their design autonomy, the

participants felt this restricted their ability to increase equity and overall engagement with their

students.

The size of a room impacts how those inside the room feel. For example, smaller spaces

contribute to feelings of confinement and discomfort. Teachers are aware of these changes in

students' feelings. As Bianca shared,

Last year I was not in a kindergarten space so we were in a normal classroom that was very small. And when the students that age are still learning their emotions, how they feel, you know, things like that, and they're on top of each other all the time, I've found that kids are going to get frustrated.

In her experience, feelings of discomfort can contradict how the teacher would like students to behave. She explains the connection between room size, number of students, and student behavior:

When the class sizes are big and you're in these small spaces, not all 33 personalities are going to get along. You know, you're teaching them how to share and how to treat each other, but when you're all sitting on the rug together in one space, some one will get nudged or bumped, those things are going to happen.

Not only do close quarters impact behavior and mood, but high student-teacher ratios also contribute to this felt dynamic within the classroom. These aesthetic properties of comfort, safety, and sense of belonging are negatively impacted by high student-teacher ratios. Negative effects on emotions are an aesthetic concern for teachers. Alice shared that she has added more flexible areas into her classroom over the years, but it was dependent on how many students she had.

One year I had 30 kids that I needed a whole other group of six chairs for, and there wouldn't have been room for the table in the back, or the carpet, something would have had to go. But then, the next year, with 24 kids I had more space available.

According to these participants, small classrooms and high student-teacher ratios lead to higher frustration and less positive interaction.

Most classroom resources, including physical properties and objects of the physical space, are supplied by the teachers who use the room. This can limit many teachers from designing the ideal classroom environment for student comfort, engagement, and potential equity. Because aesthetics relationships can be understood as focusing on issues related to form and function, power and privilege, and process and product (Houser, 2005), aesthetics permeate all aspects of education, including the structure of support teachers have around resources. Responses from participants in this study varied in terms of who has helped them towards this vision. Some mentioned that their administrations had supported their vision to their best ability. Others mentioned their coworkers and peer teachers sharing resources and contributing to their classroom design. Some participants shared that more resources or more agency to choose which resources they were given, would increase the ways they can positively impact the student learning experience. A few shared that they've done fundraisers and campaigns to reach a goal for something they'd like to include in their classroom. In pursuit of equity and engagement, in an ideal world, this group would request modular furniture, wiggle seats, bean bag chairs, unique table shapes, supplies for a reading corner, more tv monitors, more technology devices, and other various design elements.

Another barrier to the ideal classroom is the pre-existing condition of the space, besides room size. These features can be removable objects such as furniture or lighting, but also includes how many windows there are, the temperature and physical climate, and proximity to the outdoors. In one participant's classroom, she mentioned the room came with bulky furniture that is heavy and difficult to move when needed. This restricted the ways those objects and the entire space could be best utilized for increasing student comfort and access. Another participant shared that in her ideal setting, she would allow students to work outside when they needed. But

in reality, her classroom is on the second floor of the building so if students want to work

outside, they would have to go downstairs and further away from the classroom. The windows in

that classroom also do not open. In addition to the distance from the outdoors and permanently

shut windows, her school shares a courtyard with two other schools. As she describes,

> The other campuses might be having their lunch, or there might be campus security out
>
> there for that school, so sending them outside is not a good option for my students and I
>
> would say that makes my classroom not very conducive to options outside of the room.

Other pre-existing qualities that contribute to the felt dimension of the space include lighting and

temperature. Participant statements confirmed that teachers do consider these elements as

affecting student behavior and mood. One shared that she thinks harsh lighting is hard on her

students' eyes, and she does think about the effect on their focus. Temperature was also

mentioned in interviews. "I think a lot about temperature. I've been in classrooms where it's

absolutely freezing and that kind of makes you tense up. It makes you tense up physically, but I

think it also makes you do that emotionally. On the flip side, nobody wants to be in a sweltering

classroom and you know, August can get hot and that is uncomfortable for everybody." In this

statement, the teacher is acknowledging that when something is uncomfortable to her, it's likely

uncomfortable to her students.

Disconnect Between Teacher and Administrator Views of Engagement

A final barrier to the ideal space is the disconnect between the teacher's conception of

engagement and their administration's conception of engagement. This misalignment causes

frustration and limitations for the teacher. In the classroom, this means designing a space that

administrators approve of and training students to behave according to those perceptions of

engagement, which often differs from the teacher's perceptions.

One participant expressed that they know when students are engaged when they talk to each other and lead each other. When they see students talking about the task with peers and helping them complete the same task, it signifies a level of engagement often overlooked by administrators, who might consider it disruptive behavior. Others mentioned that when students get excited about the content or lesson environment, it actually indicates engagement to them. This behavior shows them that the student cares, is curious, or has heightened emotions around the subject or activity. These reactions inform the teacher positively, as opposed to potential negative views of this behavior from someone on the outside. When they see students talking about the task with peers and helping them complete the same task, it signifies a level of engagement often overlooked by administrators. Participants also included that when students are actively working on a task, it can look very different depending on the student. The variability is natural and an important part of the learning experience that should be encouraged.

Unfortunately, the variance in student behavior is a point of stress for many teachers. The reasoning for this was tied to how things could appear from the outside, specifically administrator's observations of the classroom from the outside. In this context, "outside" refers to those not actively a member of the "inside" group, therefore being outside the realm of understanding of the group's nature, tendencies, and needs. Outside observers often have a skewed or somewhat inaccurate perception of the reality lived by the individuals inside the group. In this study, participants shared what they think their administrators think engagement looks like. In their view, administrators are looking for students working quietly, sitting still in desks, following a learning pace aligned with the school's benchmark timelines, and instruction happening inside the classroom. Since administrators were not interviewed, this data can only serve as speculation, presented from the teachers' viewpoint. The participating teachers in this

study would like to see their students move freely around the room, react to the elements of the classroom, and utilize the space in its entirety.

Summary

These findings reveal the many ways teachers consider aesthetic elements as tools to enrich the equity of their classrooms and increase student engagement. In answering the research questions, the majority of participants expressed that they prioritize student feelings in the classroom. The participants shared examples of tending to the emotional and felt aspect of the environment and the impact they have witnessed on learning and equity in their classrooms. This has included caring for student comfort and safety, integrating multisensory experiences, and empowering all students to be independent and self confident. The limitations these teachers have collectively faced include the structural barriers present in schools which include faculty and staff hierarchy, funding sources, and conditions of the space.

CHAPTER V

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Equity Pedagogy challenges teachers to use knowledge about the social and cultural backgrounds of their students to teach in culturally relevant/responsive ways in order for children to experience school success or to diminish educational disparities (Morrison et al., 2008). Classroom environments and their aesthetic elements play an important role in enhancing student achievement (Chan, 1988), and efforts towards increased equity are incomplete without the careful consideration of the environmental and aesthetic factors within schools and classrooms (Banks & Banks, 1995). This qualitative study examines how elementary and high school teachers consider the impact of aesthetics and reveals their varied perspectives on the classroom design process. The results of this research will add to existing knowledge in the field of equity pedagogy and suggest new connections between the ways teachers utilize aesthetics in classroom design and their desired result of an equitable and engaging learning environment. In this section, the findings presented in Chapter IV are discussed in terms of their connection to the literature reviewed in Chapter II. This section will be organized by research question, to parallel the presentation of the findings.

Discussion

How Teachers Consider Aesthetics in the Classroom

Student Comfort and Safety

Through use of space, the participants in this study shared how they aim to humanize the experience of learning. This sample of teachers shared the ways they've noticed aesthetic elements playing a part in achieving this. According to the findings, prioritizing student's feelings and emotions (specifically comfort and safety) led to increased focus, motivation, and

enjoyment of learning. Viewing student emotions as an essential part of learning aligns with the literature reviewed in Chapter II, which supports the idea that aesthetics are an essential consideration in the classroom design process.

In the field of equity pedagogy, aesthetic properties of classroom spaces carry the subliminal power to elicit feelings of safety, comfort, and a sense of belonging (Banks & Banks, 1995). This suggests that aesthetics impact the physical space and have the power to affect emotions, mood and behavior. My findings build upon this knowledge, adding that teachers notice increased engagement when students feel good, happy, relaxed and safe.

Existing research has determined that learning is an embodied experience, something that happens when there are salient elements contributing to the memorability of the experience (Montazeri, 2013). Dewey's (1934) scholarship also suggested that aesthetic experiences can elicit feelings, make meaning, and allow them to be remembered. My findings extend this research by demonstrating that teachers recognize that elements of the physical space do impact student attention and memory during the learning experience. This suggests that intentional classroom design and the utilization of aesthetics can improve student enjoyment levels and increase overall engagement. In addition, Chung's (2004) literature on Zen presents the idea that aesthetic experiences possessing the characteristics of simplicity, naturalness, and tranquility can be critical agents that enable students to be calm, perceive, and illuminate their minds. The results of this study suggest that the impact on learning can be negative when students feel anxious, excluded, or overwhelmed.

Teacher's Placement and Positionality

Some teachers in this study used their space to increase access and meaningful learning experiences for marginalized student groups. This seemed to stem from a philosophical

foundation around student empowerment and decentralized power. The literature reviewed in Chapter II includes Gloria Ladson-Billings' work, which questions the positionality of teachers in research around multicultural education. She encourages the focus of culturally relevant pedagogy to shift from studying the student's culture to looking at the effect of the teacher's cultural biases, based on their identity, and how that permeates the learning environment.

Data from this study adds to this research, suggesting that the corresponding effect of teachers' positionality on the learning environment can be negative student feelings. Participants expressed caution around their own identities and the ways students might perceive their actions, movements, and authority. This study found that teachers do consider how their societal power might compound with their institutional power and suggests that imposing an authoritative presence can lead to negative student feelings. This study only offers teachers' perceptions of student feelings, but additional research would be needed to confirm the actual feelings of students.

Findings from this study reveal tensions that exist regarding social identities in classrooms and suggest ways in which those tensions between students and teachers could be mediated aesthetically. Acknowledging this inherent dynamic, these teachers aim to counter negative student perceptions and feelings by utilizing elements of the physical classroom space. By placing student resources in accessible areas, arranging desks to face inwards instead of forward facing, and avoiding teaching from the front of the room, these participants aim to decentralize their sociopolitical power as individuals and as teachers. Moving power away from the teacher potentially empowers students to view themselves and their peers as resources and can validate their possession of knowledge.

Connections Teachers Make Between Aesthetics and Student Engagement

Multi-Sensory Engagement

The literature reviewed in Chapter II includes research on implicit environmental cues and studies on corresponding behaviors according to the amount of salience that those cues possess (Montazeri, 2013; Quack et al., 2015). The results of those studies confirm that color, contrast, shape, and texture can influence the perceived visual salience of objects, and that cross modal or audiovisual cues had a larger influence on performance accuracy than modality-specific visual or auditory cues. This study supports those findings by offering current ways that teachers intentionally combine audio and visual stimuli in order to capture attention and increase the memorability of an experience. In addition, my findings identify multimedia devices as potential tools that can assist teachers in creating frequent multisensory learning experiences. Data from this study suggest that the use of multimedia devices in the classroom can make content more accessible to students who might learn more effectively through aesthetic engagement.

Targeted Engagement With Marginalized Students

Research suggests that truly equitable education systems are fair, inclusive, and support their students to reach their entire learning potential without setting barriers or lowering expectations (Field et al., 2007). My findings contribute to this research by revealing the intent of some teachers to achieve greater equity by instilling their students with confidence, independence, and empowering them to see beyond potential barriers. Aesthetics relationships (Houser, 2005) focus on issues related to "form and function, power and privilege, art and craft, and process and product" (p. 43). My findings add to this research and suggest that features of the physical space can lead to the development of student independence, including interactive elements and parts of the room that are designed for the purpose of a routine. The data implies

that building habitual actions is more achievable through the interactive dimension and aesthetic properties of physical space.

Prior research indicates that the felt, sensory, emotional dimension, or the aesthetic dimension, play a central role in determining what proves personally or epistemologically relevant to children (Sinclair, 2001). My findings offer examples of targeted engagement with students from marginalized groups, which involves the consideration of how the space is being used and how students are feeling while in the room. By frequently checking in on students individually, building routines and daily habits, and giving students agency in their movement around the classroom space, teachers in this study tailor the aesthetic dimension to positively impact student feelings and emotions. This study has revealed that some teachers target engagement with marginalized student groups through the use of the physical classroom space, including aesthetic elements that have visual, auditory and interactive qualities. In combination, the results of this study suggest that tending to the physical classroom environment has the potential to increase overall equity within the space.

Barriers Preventing the Ideal Design of Equitable and Engaging Learning Environments

Using an equity pedagogy lens, my findings suggest that teachers do think about aesthetics when designing their classroom but face structural barriers that prevent the ideal classroom from being realized. While some limitations are more significant than others, each participant in this study expressed lacking the ideal resources, design autonomy, and other support needed to construct their ideal learning environment. This study proposes that those limitations are barriers to equity. Barriers prevent collaboration, optimal comfort, and differentiation, in turn, limiting opportunities for increased equity in the classroom.

Barriers such as room size, student-teacher ratio, and constricting qualities of the space also inhibit equity because they deny all students the opportunity to have an enjoyable learning experience and to feel safe and happy in the classroom environment. Previous studies have suggested that engagement happens when students feel happy and are physically and emotionally comfortable. My research adds to this knowledge by finding that feelings of discomfort do often negatively impact mood and behavior in the classroom. Removing barriers to the design of comfortable and engaging physical classrooms removes potential barriers to equity.

Even within the confines of existing school structures, teachers report experiencing increased levels of engagement when they attend to their students' feelings, emotions, and identities during their time in the classroom. This information offers new ways to consider how aesthetic elements in the physical space impact equity and engagement.

Recommendations

This study was built upon prior knowledge in the field of education and has resulted in evidence based recommendations for teachers and school leaders. The first area of recommendations will be for educational practices and actions that may be taken based on the outcomes of this study, which includes prioritizing the aesthetic dimension in classroom design and considering the implications for equity within the design of learning spaces. The second area of recommendations will be for future studies that may be carried out to advance the work begun in this investigation. This includes additional research on (a) how sensory perception impacts learning, (b) the intersections between product design, game design and educational environment design, and (c) the connection between engagement and equity in classroom environments.

Recommendations for Educational Practices

Based on the outcomes of this study, recommended educational practices for teachers and school leaders include prioritizing the aesthetic dimension in classroom design and considering the implications for equity within the design of learning spaces. The research that has been presented in this study can help shape new understandings of how aesthetic elements impact the experience of learning, and offers important considerations for developing equitable learning environments.

The first recommendation, prioritizing the aesthetic dimension in classroom design, allows the physical space to be recognized as a critical tool for teachers. The aesthetic importance of the classroom can be considered through the ways students feel. This felt dimension has been suggested in this study to effect engagement, which highlights the importance of aesthetics. I recommend teachers utilize aesthetic components to excite, inspire, and motivate their students through the design of their physical learning environment. School leaders should support teachers in the creation of these environments by allowing them to have design autonomy and providing resources. This requires teachers and school leaders to be in conversation with each other and be open to new possibilities so that meaning can be co-created and recreated over time.

The second recommendation for teachers and school leaders is to consider the implications for equity within the design of learning spaces. In the context of learning, equity allows students to take full advantage of education, irrespective of their background. This suggests that classroom design contributes to equity by improving overall engagement and quality of learning.

Recommendations for Future Studies

To advance the work of this study I recommend additional research on (a) how sensory perception impacts learning, (b) the intersections between product design, game design and educational environment design, and (c) the connection between engagement and equity in classroom environments.

Additional studies on how sensory perception impacts learning could empower educators to use aesthetic tools in new ways to increase engagement and elevate the learning experiences of their students to be more memorable and meaningful. Recommended research includes qualitative and quantitative studies of the effects of closeness/proximity, noise and sound, and natural elements on cognition, attention, memory formation, mood, and behavior.

Additional research is also recommended on the intersections between product design, game design and educational environment design. Just as architects can design spaces to influence desired human behavior patterns, or game designers can captivate players through game environments, educators can tailor learning spaces to foster desired student behavior patterns and enhance the learning experience.

The final recommendation is to conduct additional research on the connection between student engagement and equity. Furthering scholarship on this topic can lead to new understandings of how educators can foster more equitable learning environments.

Conclusions

There are three major conclusions that can be made from this study. This first is that teachers consider the aesthetic dimension to include the use of space, student feelings, multisensory perception, and interactive elements of the classroom. The second conclusion is that the aesthetic dimension helps teachers enhance learning experiences by making them more

enjoyable, memorable, and accessible. The fourth conclusion is that tending to the aesthetic dimension of the physical classroom can potentially increase overall equity by improving student engagement and quality of learning experiences. While this study found some differences in how elementary and high school teachers think about the physical classroom space, the resulting data should encourage teachers of all grade levels to consider the physical classroom as a valuable resource.

The conclusions of this study situate aesthetics as an important factor in the design of physical learning environments. In accordance with equity pedagogy, this study supports the claim that schools must design classroom environments that help students from diverse racial, ethnic, and cultural groups attain the knowledge, skills, and attitudes needed to function effectively within, and help create and perpetuate a just, humane, and democratic society (Banks & Banks, 1995). By engaging students through aesthetic elements, teachers can support the felt and emotional dynamics of the classroom space, which enhances the excitement, inspiration, and motivation of their students. School leaders and policy makers can be inspired to develop support systems that help teachers incorporate the socio-emotional, developmental, and cultural needs of their students into their classroom settings. When aesthetics are considered an essential element of modern classroom design, students from diverse races, cultures, identities, and ability levels are empowered to take full advantage of their education and have meaningful learning experience.

REFERENCES

Ayres, L. (2008). Semi-structured interview. In *The SAGE Encyclopedia of Qualitative Research Methods* (L.M. Given, pp. 811–812). SAGE Publications.

Banks, C. A. M., & Banks, J. A. (1995). Equity Pedagogy: An Essential Component of Multicultural Education. *Theory Into Practice*, *34*(3), 153–158.

Banks, J. A. (n.d.). Approaches to Multicultural Curriculum Reform. In *Multicultural Education: Issues and Perspectives* (4th ed., pp. 225–246). Wiley.

Blatter, J. (2008). Case Study. In *The SAGE Encyclopedia of Qualitative Research Methods* (L.M. Given, pp. 69–71). SAGE Publications.

Buck-Morris, S. (1992). *Aesthetics and Anaesthetics: Walter Benjamin's Artwork Essay Reconsidered. 62*(Autumn, 1992), 3–41.

Chan, T. C. (1988). The Aesthetic Environment and Student Learning. *School Business Affairs*, *54*(1), 26–27.

Chung, S. K. (2004). Zen (Ch'an) and aesthetic education. In *Teaching for Aesthetic Experience: The Art of Learning* (pp. 33–47). P. Lang.

DeNora, T. (2000). *Music in Everyday Life*. Cambridge University Press. https://doi.org/10.1017/CBO9780511489433

Dickey, M. D. (2015). *Aesthetics and Design for Game-based Learning*. Routledge.

Dissanayake. E. (1992). *Homo aestheticus: Where art comes from and why*. Free Press.

Faubert, B. (2012). A Literature Review of School Practices to Overcome School Failure. In *OECD Education Working Papers* (Vol. 68, p. 34). OECD Publishing.

Field, S., Kuczera, M., & Pont, B. (2007). *No more failures: Ten steps to equity in education*. OECD Publishing.

Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice* (3rd ed.). Teachers College Press.

George, A. & Ladkin, D. (2008). The Aesthetics of Leadership Development. In *Leadership Learning* (pp. 77–92). Palgrave Macmillan. https://doi.org/10.1057/9780230584075_5

Harouni, H. (2013). Lived-In Room: Classroom Space as Teacher. *Berkeley Review of Education*, *4*(2), 187–204.

Houser, N. O. (2005). Art, Aesthetics and Equity Education: A Postmodern Investigation. *Curriculum and Teaching*, *20*(1), 41–60. https://doi.org/10.7459/ct/20.1.04

Kolb, A. Y. & Kolb, D. A. (2005). Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education. *Academy of Management Learning & Education*, *4*(2), 193–212.

Lackney, J. A. (2000). *Learning environments in children's museums: Aesthetics, environmental preference and creativity*. Interactivity 2000: Creativity in Civil Society, Baltimore, MD.

Ladson-Billings, G. (1995). Toward a Theory of Culturally Relevant Pedagogy. *American Educational Research Journal*, *32*(3), 465–491. https://doi.org/10.3102/00028312032003465

Ladson-Billings, G. (2006). From the Achievement Gap to the Education Debt: Understanding Achievement in U.S. Schools. *Educational Researcher*, *35*(7), 3–12.

Lakoff, G & Johnson, M. (1999). *Philosophy in the flesh: The embodied mind and its challenge to western thought*. Basic Books.

Leddy, T. (2020). Dewey's Aesthetics. In *The Stanford Encyclopedia of Philosophy* (Summer 2020). Metaphysics Research Lab, Stanford University.

Meuser, E. & Lapp, C. (2004). Reflective transformation: Making the classroom work for

organizations and their managers. *Strategic Change*, *13*(6), 309–322.

https://doi.org/10.1002/jsc.685

Montazeri, S. (2013). *Design for Behavior Change: The Role of Product Visual Aesthetics in

Promoting Sustainable Behavior* [Doctoral Dissertation]. University of Michigan.

Morrison, K. A., Robbins, H. H., & Rose, D. G. (2008). Operationalizing Culturally

Relevant Pedagogy: A Synthesis of Classroom-Based Research. *Excellence in

Education*, *41*(4), 433–452. https://doi.org/10.1080/10665680802400006

Nieminen, S., Istók, E., Brattico, E., Tervaniemi, M., & Huotilainen, M. (2011). The

Development of Aesthetic Responses to Music and Their Underlying Neural and

Psychological Mechanisms. *Cortex*, *47*(9), 1138–1146. ScienceDirect.

Pont, B. (2017). School Leadership for Equity: A Comparative Perspective ☆. In *The

Impact of the OECD on Education Worldwide* (Vol. 31, pp. 99–124). Emerald

Publishing Limited. https://doi.org/10.1108/S1479-367920160000031007

Quak, M., London, R. E., & Talsma, D. (2015). A Multisensory Perspective of Working

Memory. *Frontiers in Human Neuroscience*, *9*, 197.

Sadler, R. (2020). 5 Ways to ground your teaching in social justice. *Facing Today*.

https://facingtoday.facinghistory.org/5-ways-to-ground-your-teaching-in-equity-and-just

ice

Sinclair, N. (2001). The Aesthetic "Is" Relevant. *For the Learning of Mathematics*, *21*(1),

25–32.

Sutherland, I. & Ladkin, D. (2013). Creating Engaged Executive Learning Spaces: The Role

of Aesthetic Agency. *Organizational Aesthetics*, *2*(1), 105–124.

Tools for Schools. (1998, April). *Advancement Via Individual Determination (AVID)*. https://www2.ed.gov/pubs/ToolsforSchools/avid.html

Wilson, E. (1998). *Consilience: The unity of knowledge*. Vintage Books.

Woessmann, L. & Schütz, G. (2006). *Efficiency and equity in european education and training systems* (European Expert Network on Economics of Education (EENEE) Analytical Report, p. 42) [Analytical Report].

APPENDIX A

APPENDIX A: INTERVIEW PROTOCOL

Intro:
Thank you for taking the time to meet with me today. As you know, I am a graduate student at the University of San Francisco and my thesis is on how teachers connect the learning environment to equity and engagement. I became interested in this while working with students during the transition to distance learning. I saw how the change in learning environments began to severely impact levels of engagement with academic content. The environmental aspects became the most important factor in how effective the learning experience was for the students. That made me want to dive into aspects of the physical classroom and learn how teachers consider the physical space and how they use it as a tool for engagement and to build greater equity in their classrooms.

For the purpose of this interview, and my study, I define aesthetics as elements of sensory perception - how we absorb our physical environment, through our senses, both consciously and subconsciously. I'm looking at how teachers engage the senses of their students through their classroom design.

While I know you might not have been in your physical classroom this year, these questions are focused on when you were in that physical classroom and to recall details of that space.

Consent:
If I have your permission, I would like to record this interview. Please feel free to stop the recording or interview at any time. Do you have any questions for me? Thank you and let's get started.

1) I'd like to hear about your background, why you got into teaching and how you came to teach at this school.

2) What are the ways you think children learn best?

3) How do you want students to feel when they're in your classroom?

4) How do you know when your students are engaged?

5) How do you address "disengagement" in the moment?

6) Do you notice any elements of your space that have either contributed to or taken away from student focus during lessons?

Thank you for sharing a bit about your current role and classroom. That really helps me understand what you do. I'm curious to know what you think about aesthetics and if you've ever thought about the aesthetic elements present in your classroom.

Again, with the term "aesthetics" or "aesthetic elements" I'm referring to those elements that elicit a sensory response. For example, visual, audio, spatial design elements. Even utilization of temperature, nature or outdoor environments as well.

So let's start with your classroom space -

1) Can you give me examples of ways your students interact with the learning environment, your classroom?

2) Can you describe your current classroom environment? (Or show a picture)

   a) Are there any significant changes you've made over the years to this space and why?

2) Do you intentionally employ any aesthetic considerations when designing your classroom?

   a) Can you tell me of a time you've seen this element lead to learning

   b) Can you tell me about a time you were surprised by the ways students interacted with this element?

3) Can you tell me about an element in your classroom setting that has made students feel good?

4) Are there ways you set up your classroom that have elicited negative responses?

5) How do you design your space so that students who are marginalized feel safe and a sense of belonging in your room?

   a) Are they ways that you set up your space that include that group?

6) How do you set up your classroom so that students interact with each other in a positive way?

   a) What doesn't work for collaboration?

Thank you for helping me understand how you currently think about aesthetics in your classroom. In this final section, I'd like to ask about potential barriers to your ideal classroom design.

1) If you could design your classroom in any way you wanted, what would be different?

2) Has your administration or even your colleagues helped you toward this vision?

3) What are some challenges in realizing this vision?

   a) What are the resources you would need to enact this vision?

4) If anything, what might you be curious to know or learn about the impact of aesthetics on learning environments?

5) Is there anything about student engagement or classroom environments that is important for me to understand that I haven't asked you about or you haven't mentioned yet?

Thank you for taking the time to meet with me today and for sharing about your work. I appreciate your honesty and vulnerability with me. You're welcome to reach out with any questions about the study or for more information on this topic.

APPENDIX B

APPENDIX B: IRB CONSENT FORM FOR ADULTS

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Below is a description of the research procedures and an explanation of your rights as a research participant. You should read this information carefully. If you agree to participate, you will sign in the space provided to indicate that you have read and understand the information on this consent form. You are entitled to and will receive a copy of this form. You have been asked to participate in a research study entitled "The Impact of Aesthetics on Student Engagement: A Consideration of Equity Pedagogy" conducted by Giuliana Barraza, a Masters student in the Department of Leadership Studies at the University of San Francisco. This faculty supervisor for this study is Professor Seenae Chong, a professor in the Department of Leadership Studies at the University of San Francisco.

WHAT THE STUDY IS ABOUT:
The purpose of this research study is to listen to the ways teachers consider aesthetic elements in their classroom design process, how they perceive engagement from their students, and connections they might make between these practices and issues of equity.

WHAT WE WILL ASK YOU TO DO:
During this study, the following will happen: Giuliana will interview teachers about their classroom design and teaching experiences. Questions will be semistructured and will offer participants the opportunity to share stories and specific examples from their classrooms. Participants may also be asked to share photographs and other artifacts from their own classrooms. Interviews will be conducted in the format of a video call or a phone call. With your permission, we will audiotape and take notes during the interview. The recording is to accurately record the information you provide, and will be used for transcription purposes only. If you choose not to be audiotaped, we will take notes instead. If you agree to being audiotaped but feel uncomfortable at any time during the interview, we can turn off the recorder at your request. Or if you don't wish to continue, you can stop the interview at any time.

DURATION AND LOCATION OF THE STUDY:
Your participation in this study will involve a single interview session that will last between 45-60 minutes. The study will take place on Zoom, in a secure meeting room. Participants will receive the Meeting ID and Passcode prior to the interview.

POTENTIAL RISKS AND DISCOMFORTS:
The risks and benefits associated with this study are a loss of your time and the risks associated with regular activities. The benefit of the study is that it may add to the research on the field of education and international/multicultural issues. This information, once collected, might be read by policymakers, educational experts, educators and scholars and could affect the educational practice. If you do not want to participate in the study, you will not be mentioned in any documents of the study, and your decision to not participate will not be told to anyone. You may choose to withdraw your consent and discontinue your participation at any time during the study without penalty. If you are upset by any of the questions asked, the researcher will refer you to counseling services available publicly or at the university if you are a member of the academic community (student, staff or professor).

BENEFITS:
You will receive no direct benefit from your participation in this study; however, the possible benefits to others include the ways in which information from this study may benefit other teachers now or in the future.

PRIVACY/CONFIDENTIALITY:
Any data you provide in this study will be kept confidential unless disclosure is required by law. In any report published, no information will be included that will make it possible to identify you or any individual participant. To minimize the risks to confidentiality, real names will be replaced by pseudonyms on all interview and observation transcripts, and all audio files, observation notes, or other documents that contain personal identifiers will be stored in a password-protected computer or hard-drive that we will keep in a locked file cabinet until the research has been completed. Original audio-files will be destroyed at the completion of the study. Specifically, all information will be stored on a password-protected computer and any printouts in a locked file cabinet. Consent forms and any other identifiable data will be destroyed in 3 years from the date of data collection.

COMPENSATION/PAYMENT FOR PARTICIPATION:
There is no payment or other form of compensation for your participation in this study.

VOLUNTARY NATURE OF THE STUDY:
Your participation is voluntary and you may refuse to participate without penalty or loss of benefits. Furthermore, you may skip any questions or tasks that make you uncomfortable and may discontinue your participation at any time without penalty or loss of benefits. In addition, the researcher has the right to withdraw you from participation in the study at any time.

OFFER TO ANSWER QUESTIONS:

Please ask any questions you have now. If you have questions later, you should contact the principal investigator: Giuliana Barraza at gbaraza3@dons.usfca.edu or the faculty supervisor, Seenae Chong at (XXX) XXX-XXXX or srchong@usfca.edu. If you have questions or concerns about your rights as a participant in this study, you may contact the University of San Francisco Institutional Review Board at IRBPHS@usfca.edu.

I HAVE READ THE ABOVE INFORMATION. ANY QUESTIONS I HAVE ASKED HAVE BEEN ANSWERED. I AGREE TO PARTICIPATE IN THIS RESEARCH PROJECT AND I WILL RECEIVE A COPY OF THIS CONSENT FORM.

PARTICIPANT'S SIGNATURE   *DATE*