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USING ART EDUCATION TO CULTIVATE SELF-EFFICACY AND DIVERGENT THINKING

Julian Flores Rubalcaba

USING ART EDUCATION TO CULTIVATE SELF-EFFICACY AND DIVERGENT THINKING

A Dissertation

Presented to the

Faculty of

California State University,

San Bernardino

In Partial Fulfillment

of the Requirements for the Degree

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in

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Approved by:

Enrique Murillo, Jr., Committee Chair, Education

Carmen Beck, Committee Member

Dionne Elvira, Committee Member

ABSTRACT

The purpose of this study is to understand the experiences of an art teacher implementing art education with creative learning principles to cultivate students' creative self-efficacy and divergent thinking at one middle school in the Inland Empire located in Southern California. The research continues to focus on how self-efficacy and divergent thinking cultivate through the process of art creation through project-based learning (Puente-Díaz & Cavazos-Arroyo, 2017). An art education is not a requirement for students to receive throughout their PK-12 general education in low socioeconomic schools due to an emphasis on the general education curriculum to focus on high-stakes standardized testing (Wexler, 2014). For students in California, one art course is a requirement to graduate from high school (*California Department of Education*, 2020). The framework of this study uses critical race theory and critical pedagogy to examine students in low socioeconomic communities and inequitable opportunities to cultivate self-efficacy and divergent thinking when compared to more affluent communities (Puente-Díaz & Cavazos-Arroyo, 2017; Reichelt et al., 2019).

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I would like to acknowledge my committee, Enrique Murillo, Jr., Carmen Beck, Dionne Elvira, and my cohort for their support to get me across the finish line.

DEDICATION

For my family and friends.

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CHAPTER ONE

INTRODUCTION

Statement of the Problem

The problem addressed in this study is the lack of opportunities for students to cultivate self-efficacy and divergent thinking through traditional art education in the PK-12 curriculum (Kraehe, 2017). Due to high-stakes testing, the United States has nearly eliminated art education to focus on test preparation (Wexler, 2014). After years of school districts reassessing and prioritizing general education, the perceptions of art have changed with art education almost inexistent (Wexler, 2014). In the majority of school districts, art education is perceived negatively as unnecessary, or it is valued primarily for affective uses (Kaimal & Ray, 2017). The negative perceptions of art have diverted resources and funding for art education to other programs that have yet to improve student scores on high-stakes tests ("Community/Schools Partnership for the Arts," 2001; National Art Education Association, 2001, 2014). Students in low-socioeconomic communities in California do not have equitable opportunities to have art as part of their middle school curriculum (Wexler, 2014). As a result, students in low-socioeconomic communities do not have equitable opportunities to cultivate divergent thinking or self-efficacy (Apple, 1978; Bourdieu, 1984; Puente-Díaz & Cavazos-Arroyo, 2017; Reichelt et al., 2019). Students need opportunities in PK-

12 general education to develop self-efficacy and divergent thinking through art education (Puente-Díaz & Cavazos-Arroyo, 2017).

Due to high-stakes testing and state standards, schools have eliminated art education to focus on preparation for mandated standardized testing that provides funding to public education (National Art Education Association, 2014). The conceptual framework of this study examines art education to identify if it effects students' divergent thinking and self-efficacy. Students need opportunities to be enrolled in art education to develop self-efficacy and divergent thinking since students receive relatively the same general education and receive little differentiation through the students' curriculum to prepare for testing (Reichelt et al., 2019; Winders & Smith, 2019). The lack of differentiation in students' curriculum has led to social issues (L. Garcia, 2017; Reichelt et al., 2019; Winders & Smith, 2019). The lack of art education in the PK-12 curriculum is, in itself, a social issue that establishes the theoretical framework of this study as critical pedagogy and critical race theory. Students need art education that incorporates creative learning principles to develop self-efficacy and divergent thinking.

Purpose of the Study

The purpose of this qualitative study will be to understand the experiences of an art teacher implementing art education with creative learning principles to cultivate students' creative self-efficacy and divergent thinking at one middle school in the Inland Empire located in Southern California. Ideally, the results of

this study could be used by educational leaders to integrate art education into the school curriculum to foster self-efficacy and divergent thinking among middle school students.

Research Questions or Hypotheses

The research questions guiding this study will be: What teaching experiences and observations do I, as an art teacher, have in cultivating students' self-efficacy when incorporating art education with creative learning principles? What teaching experiences and observations do I, as an art teacher, have in cultivating students' divergent thinking when incorporating art education with creative learning principles?

Significance of the Study

The significance of this research will be to study self-efficacy and divergent thinking in middle school students of the Inland Empire located in Southern California. I would like to identify how students can cultivate students' self-efficacy and divergent thinking through an art education that incorporates creative learning principles.

Self-efficacy is an individual's ability to continue to strive towards a goal even when mistakes and failing occur (Bandura, 2012; Collins, 2016). Self-efficacy is essential when students are learning academic content for the first time as students might not initially grasp the concepts of the material taught (Bandura, 2012; Christenson et al., 2012; Collins, 2016; Dogan, 2015; Lee &

Mao, 2016; Olivier et al., 2019). Students can get discouraged if they do not understand the content (Chou et al., 2018). Students can be too embarrassed to ask teachers for assistance because students are afraid of looking incompetent in front of their peers (Chou et al., 2018). Self-efficacy will help students to develop confidence and competence in their ability to achieve the desired outcome (Bandura, 2012; Collins, 2016).

Divergent thinking is important for students to be able to think and learn differently from one another (Puente-Díaz & Cavazos-Arroyo, 2017). When students are learning the same content through general education, students need opportunities for divergent thinking (Apple, 1978; Puente-Díaz & Cavazos-Arroyo, 2017; Sowden et al., 2015; Yi et al., 2015). Divergent thinking will allow students to develop their individuality and creativity (Dewey, 1959; Sowden et al., 2015; Yi et al., 2015).

In a standardized PK-12 curriculum, there are objectively accepted answers to finding solutions to math problems, English grammar, and science, which leaves few opportunities for divergent thinking (Apple, 1978; Freire, 2000; Sowden et al., 2015). Teachers instruct to meet benchmarks, curriculum, and objective requirements initially believed to prepare students for high-stakes testing. As a result of prioritizing high-states tests, teachers do not have many opportunities to engage students' divergent thinking (Sowden et al., 2015; Wexler, 2014; Yi et al., 2015). Although subject matter such as math, science, and English are important, these subject matters are taught to fulfill the obligation

of high-stakes standardized testing and are not conducive to divergent thinking (Apple, 1978; Freire, 2000; Wexler, 2014).

If students are learning the same content and students are not able to differentiate themselves through cultivating divergent thinking, then students are unfortunately replaceable once the students enter the workforce (Apple, 1978; Freire, 2000; Sowden et al., 2015). Society expects the majority of students to learn the same information and take the same high-stakes tests with little differentiation (Apple, 1978; Lee & Wu, 2017; Standardized Tests, 2019).

The significance of introducing art education that includes creative learning principles for middle school students in the Inland Empire is that students will have the opportunity to learn without the consequences of high-stakes testing when the students make mistakes or struggle with school subject matter. The significance of art education combined with creative learning principles is that middle school students will be able to cultivate self-efficacy and divergent thinking. As a result of introducing art with creative learning principles, students will continue to strive to become academically successful even if the students struggles or encounters challenges in other core student matter classes (Ellis, 2016). Middle school is a pivotal moment in age for the development of students to cultivate self-efficacy and divergent thinking which will be an instrumental time to focus on this group of students (Eagleman, 2019).

Self-efficacy and divergent thinking are both developed through the process of making art (Puente-Díaz & Cavazos-Arroyo, 2017). The significance

of this study would be to identify how art educations that implements creative learning principles cultivates self-efficacy and divergent thinking in middle school students. The significance of this study would also be to highlight how content standards and high-stakes testing have stagnated student self-efficacy and divergent thinking.

Assumptions

1. For the purpose of this study, it is assumed that the lessons developed are using a high-cognitive curriculum that is based on the California Visual and Performing Arts State Standards.

2. The art process includes student autonomy, experimentation, feedback, productive criticism, and the creation of rough drafts and final drafts.

3. It is assumed that the population of the middle school students in this study is representative of an average inclusive classroom.

4. The researcher collected the data with honesty and trustworthiness.

5. The participants would not perform any differently if the researcher did not include the students in the study.

6. The stakeholders agreed that the data collection and data analysis was appropriate for the purpose of this study.

7. The stakeholders had the opportunity to review the findings and agreed with the results.

8. The purpose of implementing high-stakes testing is to ensure that students receive the same general education with little differentiation.

Delimitations

The purpose of this qualitative study will be to understand the experiences of an art teacher implementing art education with creative learning principles to cultivate students' self-efficacy and divergent thinking at one middle school in the Inland Empire located in Southern California. I will collect personal experiences and observational data as part of the research method. I will attempt to collect data by comparing the experiences of working with students that receive art education in middle school and students that do not enroll in art education in middle school. The art education used in the study will use creative learning principles that encompasses designing, creating, and critiquing new work of their own and preexisting historical artwork. This research will allow me to compare experiences of students' self-efficacy and divergent thinking that have had an art education that incorporates creative learning principles and students that have not had art as part of their curriculum. I will be exploring if art education that incorporates creative learning principles can cultivate self-efficacy and divergent thinking through project-based learning. Art education that incorporates creative learning principles will be based on the high orders of thinking that occur in Bloom's Taxonomy, Webb's Depth of Knowledge, and Gardner's Multiple Intelligences.

I am exploring art beyond the aesthetic, expression, and emotional reasons that educators value art for sometimes. I will not be studying art from an affective or psychomotor perspective. In introductory-fundamental art courses,

students have the opportunity to develop affective or psychomotor domains. Researchers value affective or psychomotor domains in art therapy, restorative justice, and working with senior adults where art is thoroughly effective ("Creative Arts," 2006; "Whole Brain Learning," 2006; Hass-Cohen et al., 2008; Lawrence, 2009).

Definitions of Key Terms

Art. Art is defined as visual and performing arts (VAPA), which includes dance, media arts, music, theatre, and visual arts (California Arts, 2014; National Art Education Association, 2014).

Art Education. In art education, students learn the same process of innovating project-based learning students plan, experiment, develop, create, and redevelop their artwork if necessary to meet the desired outcome of the student for the individual assignment (Baker, 2013).

Bloom's Taxonomy. Bloom's Taxonomy is a framework separated into different cognitive levels that are used by educators to measure the depth of learning that is engaged in assessment objectives (Crompton et al., 2019).

Critical Pedagogy. Critical pedagogy is the ability to have students become critically aware of the social issues that are occurring in their community (Freire, 2000).

Critical Race Theory. Critical race theory uses knowledge that is interdisciplinary, experiential, and critical to value the knowledge that students

have based on their lived experiences, race, gender, and class (Solórzano & Yosso, 2002).

Divergent Thinking. Divergent thinking is an individual's ability to think differently from one another necessary to develop their individuality and creativity (Puente-Díaz & Cavazos-Arroyo, 2017).

Creative Learning Principles. Creative learning principles is the level of thinking based on Webb's Depth of Knowledge and Bloom's Taxonomy that a student uses to solve a given problem or question (V. A. Ellis, 2016).

High-Stakes Testing. High-stakes tests are standardized tests used to measure student success and school funding based on the scores that students earn on these tests (Kraehe, 2017).

Multiple Intelligences. Gardner (1999) has explored the idea of multiple intelligences that differentiates learning into separate domains in which students obtain knowledge. Multiple intelligences include bodily-kinesthetic, interpersonal, intrapersonal, linguistic, logical-mathematical, musical, naturalistic, and spatial (Gardner, 1999; Macdonald, 2018).

Rhizomatic Learning. connects concepts acquired inside or outside the classroom and applies that knowledge to a problem from any subject matter to create a creative solution (V. A. Ellis, 2016).

Self-Efficacy. Self-efficacy is a student's ability to cultivate confidence and competence in their ability to achieve the desired outcome (Bandura, 2012; Collins, 2016).

School Tracking. School tracking are pathways that place students on tracks based on the students' academic performance, behavior, and cognitive ability (Reichelt et al., 2019).

Webb's Depth of Knowledge. Webb's Depth of Knowledge (DOK) is a tool used to determine the cognitive complexity of a question, activity, or assessment based on content state standard (Common Core Institute, 2013).

Summary

Chapter one introduced the statement of the problem, the purpose of the study, the research questions, and significance of the study. The statement of the problem is that students lack opportunities to cultivate self-efficacy and divergent thinking through art education in middle schools (Kraehe, 2017). This problem has occurred due to the near elimination of art education to prioritize high-stakes testing (Wexler, 2014). The purpose of this qualitative study will be to understand the experiences of an art teacher implementing art education with creative learning principles to cultivate students' creative self-efficacy and divergent thinking at one middle school in the Inland Empire located in Southern California.

The first research question that this study answer includes what teaching experiences and observations do I, as an art teacher, have in cultivating students' self-efficacy when incorporating art education with creative learning principles? The second research question that this study answers is what teaching experiences and observations do I, as an art teacher, have in cultivating

students' divergent thinking when incorporating art education with creative learning principles?

The significance of this study will be to identify if students can cultivate self-efficacy and divergent thinking through an art education with creative learning principles. Chapter one also discussed assumptions and delimitations of the type of art education with creative learning principles that the researcher will use to conduct this study. Lastly, chapter one covered the definitions that are used in the body of research, which are needed to understand the purpose of the study.

CHAPTER TWO

LITERATURE REVIEW

Introduction

The purpose of this study is to understand the experiences of an art teacher implementing art education with creative learning principles to cultivate students' creative self-efficacy and divergent thinking at one middle school in the Inland Empire located in Southern California. Art is defined as visual and performing arts (VAPA), which includes dance, media arts, music, theatre, and visual arts (California Arts, 2014; National Art Education Association, 2014). The focus of this study is visual arts. Creative learning principles incorporates higher-order thinking to solve complex tasks by evaluating and analyzing a given problem to create a solution (Baker, 2013; V. A. Ellis, 2016). An art education that incorporates creative learning principles creates a hands-on approach to learning while students find solutions to problems that utilize higher-order thinking (Baker, 2013; V. A. Ellis, 2016). In an art education that incorporates creative learning principles , students explore experimentation and divergent thinking through project-based learning (Wexler, 2014). In art, students are encouraged to find individual solutions to the same problem and express their individuality (Dewey, 1959; Hardiman, 2017; K. Robinson, 2017). As students share their solutions, experiment, and re-create artwork through multiple renditions, students have the potential to actively gain self-efficacy as the

students attempt to achieve the desired outcome of their artwork.

Self-efficacy is a student's ability to develop confidence and competence in their ability to achieve the desired outcome (Bandura, 2012; Collins, 2016). Self-efficacy is an individual's ability to continue to strive towards a goal even when mistakes and failing occur (Bandura, 2012; Collins, 2016). Self-efficacy is essential when students are learning academic content for the first time and students might not initially grasp the content in other school disciplines (Bandura, 2012; Christenson et al., 2012; Collins, 2016; Dogan, 2015; Lee & Mao, 2016; Olivier et al., 2019). Self-efficacy is important because students can get discouraged if they do not understand the content, or students can be too embarrassed by appearing incompetent in front of their peers to ask teachers for assistance (Chou et al., 2018).

Divergent thinking is a student's ability to think differently from one another, think through solutions, opinions, and ability to justify a decision (Puente-Díaz & Cavazos-Arroyo, 2017). In contrast, schools often use a banking model to transfer education (Freire, 2000). In the banking model, students receive histories or truths from education institutions that are deemed appropriate and necessary to be taught to students (Freire, 2000). The banking model transfers information from one generation to the next (Freire, 2000). When students are learning the same content through general education, students may benefit from opportunities for divergent thinking (Apple, 1978; Puente-Díaz & Cavazos-Arroyo, 2017; Sowden et al., 2015; Yi et al., 2015). Divergent thinking

will allow students to develop their individuality and creativity (Dewey, 1959; Sowden et al., 2015; Yi et al., 2015).

Although there are objectively accepted answers in a standardized PK-12 curriculum in math, English, and science, this leaves few opportunities for divergent thinking (Apple, 1978; Freire, 2000; Sowden et al., 2015). Teachers are instructed by education administrators to meet the benchmarks, curriculum, and objective requirements initially expected to prepare students for high-stakes testing. As a result of prioritizing high-stakes standardized testing, teachers do not have many opportunities to engage students' divergent thinking (Sowden et al., 2015; Wexler, 2014; Yi et al., 2015). While subjects such as math, English, and science are essential, such subject areas are taught to satisfy the requirement of high-stakes standardized testing and are not conducive to divergent thinking (Apple, 1978; Freire, 2000; Wexler, 2014).

Society expects most students to learn the same information and to take the same high-stakes tests with little differentiation (Apple, 1978; Lee & Wu, 2017; Standardized Tests, 2019). Self-efficacy and divergent thinking are both developed through the process of making art (Puente-Díaz & Cavazos-Arroyo, 2017). The intention of this research is to understand the experiences of students and identify how students can continually develop their self-efficacy and divergent thinking through an art education that incorporates creative learning principles. The significance of this study would be to highlight how an emphasis on core content standards and high-stakes testing have stagnated student self-

efficacy and divergent thinking because of the lack of an art education that incorporates creative learning principles. The significance of students cultivating self-efficacy and divergent thinking would be to become critically conscious through art education.

History of High-Stakes Testing

Prioritizing Standardized Responses

While standardized testing has been used in the United States (U.S.) since the 1800s, it was never mandatory to receive school funding (Brosio, 1991). Politics, corporations, and education have become more interrelated and often do more harm to low-income people and communities of color (Schniedewind & Tanis, 2017). Standardized testing was first implemented to ensure that students were learning the content that was grade level appropriate (Grodsky et al., 2008; Newman & Chin, 2003). Standardized testing which was originally designed to measure what students have learned has become high-stakes testing that determines how schools are funded (Kraehe, 2017). Funding for schools is dependent on teachers effectively improving student academic achievement and for students to perform high on standardized tests (Kraehe, 2017).

Both the Nixon and Reagan administrations began to call for education reform so that the mandated curriculum would be in the best interest of corporations and policymakers (Brosio, 1991; Howley, 1990). Then continuing with the George W. Bush and the Barack Obama administrations, many of the

corporations worked together with education policymakers to determine which discipline and which assessments would allow the U.S. to compete economically on a global market (Lee & Wu, 2017; Smyth, 2008; Wexler, 2014). As the U.S. continues to be dependent on high-stakes testing to assess the performance of student learning, students are not performing better on state assessments nor is the U.S. outperforming other countries in reading, writing, and math (Standardized Tests, 2019). Since implementing No Child Left Behind (NCLB), the U.S. reading, writing, and math scores have dropped when compared to other countries' test scores (Standardized Tests, 2019).

No Child Left Behind (NCLB) became the framework from 2002 to 2015 for standardized testing for schools throughout the United States to assess student performance based on standards believed by the federal government to further education and career paths (Lee & Wu, 2017). Under NCLB, Title I funding for schools depended on student academic performance, standardized test scores, and teachers' ability to help students meet the standards (Lee & Wu, 2017). Obama introduced Common Core State Standards (CCSS) in 2009 that would grant states the right to determine which standards met the needs of their students even though the government still designed the standards to prepare for standardized testing (Wexler, 2014). Under CCSS, the states needed to incorporate state standards and administer standardized testing to continue receiving federal grant money but have the autonomy to choose which standards to implement (Wexler, 2014).

NCLB and CCSS were implemented to satisfy the education and skill requirements that educators, policy makers, and corporations, believe that students should have in order to prepare students for further education and to create jobs in the U.S. (Lee & Wu, 2017; Wexler, 2014). More than a decade after the NCLB and the CCSS curriculum have been implemented, the corporations that promised to bring jobs to the U.S. if the curriculum was implemented have gone to other countries that have lower taxes, lower work environment standards, and are able to pay employees lower wages (Guo, 2014; Kahn & Kellner, 2005). For corporations, the interest has shifted from providing jobs to students with high test scores to shifting jobs to other countries that have employees willing to work for less due to globalization and automation (Lipman, 2004; Reich, 2013, 2015).

Many corporations have moved high paying jobs overseas even though NCLB and CCSS were developed in partnership between the government and corporations to prepare students to meet the qualifications needed to work for these corporations (Fletcher et al., 2017; Gordon, 2008; Reich, 2013, 2015). Even after the corporations have moved these jobs overseas, the government has not reformed educational policies and standards to leave out the interests of the corporations (Fletcher et al., 2017; Gordon, 2008; Reich, 2013, 2015). As a result of reforming education to implement NCLB and CCSS in order satisfy corporations, students in the U.S. are scoring lower on high-stakes tests than before the reformed curriculum, leading to students falling further behind in

education, and being less prepared for further education and future careers (Lee & Wu, 2017; Wexler, 2014).

In 2009, Obama also implemented the Race to the Top (RTTT) grant that rewarded schools that performed well academically (Morgan, 2016). Instead, the RTTT grant incentivized schools to cheat on standardized tests, attendance records, and reports to receive funding (Morgan, 2016). As a result, schools in low-socioeconomic communities that needed the funding to perform well began to perform worse (Morgan, 2016). Instead, RTTT made it possible for private charter schools to receive funding and consequently closed more public schools (Wexler, 2014). RTTT, NCLB, CCSS, and standardized testing all brought forward inequities in education and achievement gaps for students from different socioeconomic backgrounds (Morgan, 2016; Wexler, 2014).

In 2015, Obama replaced NCLB with the Every Student Succeeds Act (ESSA), which allowed flexibility to Title I funding to rely less on students' academic and teachers' performance (CA Dept of Education, 2020). ESSA allocates Title I funding based on school Local Control and Accountability Plans (LCAP) that school districts develop to meet their students' unique needs (CA Dept of Education, 2020). Title I funding is based on a formula that looks at the Census information based on poverty estimates, families who receive assistance, supported foster homes, neglected or delinquent children with low attendance (*Office of Elementary and Secondary Education*, 2019). Title I are federal funds that support the educational needs of students through "effective, evidence-

based educational strategies that close the achievement gap and enable the students to meet the state's challenging academic standards (CA Dept of Education, 2020)." The current forms of funding for K-12 public school districts in California are Title I and LCAP (CA Dept of Education, 2020). Still, the art classes were already eliminated prior to the implementation of ESSA to focus on student preparation for standardized testing (Kraehe, 2017).

Interpretations of the effectiveness of high-stakes tests to measure student knowledge of grade level appropriate content varies when comparing test scores in the U.S. from when NCLB was implemented in 2002 to 2017 (Grodsky et al., 2008; Lee & Wu, 2017). Results show that students were already able to meet grade level appropriate content prior to the implementation of high-stakes tests while policy makers argue that fifteen years is not long enough to show the effectiveness of high-stakes tests to measure student knowledge (Grodsky et al., 2008; Lee & Wu, 2017). Some results of NCLB state that scores of students were unchanged which means that students were able to learn grade level appropriate content before high-stakes tests were implemented as a measurement tool for success (Grodsky et al., 2008). Other sources state that further research needs to be conducted to determine if high-stakes testing is helping (Lee & Wu, 2017). The results of high-stakes tests from 2002 to 2017 show that high-stakes tests were not more successful in measuring students' knowledge of grade level appropriate content prior to when high-stakes tests were implemented (Grodsky et al., 2008; Lee & Wu, 2017).

Effects of High-Stakes Testing on Defining Success

The United States uses standardized tests to measure student achievement (Schniedewind & Tanis, 2017). When students score high on standardized tests, those scores are perceived as measuring their success in career and college readiness (Schniedewind & Tanis, 2017). If a student does not score high on the standardized test, that is a perceived indicator of the student's failure to be prepared for career and college (Schniedewind & Tanis, 2017). If students received high scores for memorizing preexisting formulas and were able to recall how to solve problems for a test, that student would be considered an example of a high-achieving student (Apple, 1978; Elmore, 1996).

Although many states have made attempts in opting-out of standardized tests, New York in the only state that was successful in 2016 to opt-out of standardized testing (Schniedewind & Tanis, 2017). Parents in New York recognized how standardized testing was unfairly being prioritized for funding and as a result school programs in their state were being defunded (Schniedewind & Tanis, 2017). Since New York is the only state that opts-out of standardized testing, it is essential to look at other countries who recognize art education as a resource to prepare students for higher education and future careers (Wexler, 2014).

Many countries including Norway, Iceland, Switzerland, Denmark, and Finland have started moving away from focusing and measuring a country's success based on how well students perform on national state tests (D'Acci,

2011; Natoli & Zuhair, 2011; Pate, 2016). These same countries have also moved away from evaluating a country's success based on GDP, income, investment, capitalism, and global markets. Instead, these countries have begun focusing on prosperity, innovation, and social progress (D'Acci, 2011; Natoli & Zuhair, 2011; Pate, 2016). It is only until high-school that students in California are expected to take one course of art (National Art Education Association, 2014; Pate, 2016).

Influence of High-Stakes Testing on School Curriculum

The purpose of secondary middle school and high school education is to prepare students for higher education and future careers (Wexler, 2014). Curriculum and high-stakes testing was believed to be an indicator of students' preparedness for higher education and future careers but has instead been used to withhold funding from schools if students receive low scores on exams (Wexler, 2014). Students are no longer receiving instruction in classes to prepare for higher education and future careers since students are having difficulty meeting the objectives of the standards (Wexler, 2014). Instead, students are receiving instruction intended to prepare students for standardized tests (Wexler, 2014). Students are receiving instruction that emphasizes test preparation strategies in terms of how to study for tests, memorizing formulas, and how to use the process of elimination in responding to questions (Wexler, 2014).

As a result of emphasizing education on test preparation and funding that is dependent on test scores, students are not receiving a curriculum to meet the

initial needs of school standards (Wexler, 2014). The initial purpose of school standards was to have the United States be economically successful, innovative, and improve the general welfare of the citizens to be qualified for future careers and higher education (Wexler, 2014). State standards and high-stakes testing have not met their initial intended conceptualized purpose, which was to better prepare students for higher education and future careers (Wexler, 2014). Students' schools in lower socioeconomic communities receive less funding because the students do not receive high test scores (Wexler, 2014). Due to students' low academic performance and low performance on standardized tests, schools require students to be placed in school tracking programs to improve students' performance (Houtte et al., 2012).

School Tracking. School tracking are pathways that place students on tracks based on the students' academic performance, behavior, and cognitive ability (Reichelt et al., 2019). Student can even be placed in a low-level track for erroneous reasons (Reichelt et al., 2019). An example of an erroneous reason would be that a student needed an accommodation, differentiation in the way the lesson was being taught, or further explanation of a problem in the lesson (Houtte et al., 2012). Students who do not receive the additional assistance could instead get behind academically and be misclassified as qualifying for low-level tracking classes (Houtte et al., 2012). Students who are placed in low-level tracking classes experience lower self-efficacy because of the stigmatization that these classes carry with them (Houtte et al., 2012). Students that are more likely

to be disadvantaged and placed in low-level tracking class are students from low-socioeconomic communities because these students do not have receive adequate support to perform well academically.

Since art classes are dependent on the academic performance of students, these students in low economic communities are less likely to receive opportunities to continually develop self-efficacy and divergent thinking through art education. Due to time constraints in the classroom, art classes are seen as nonessential (Lee & Wu, 2017; Lipman, 2004). Since art is not part of the core curriculum or part of the standardized tests, more time is allocated in classrooms to subjects that will be on the high-stakes tests (Lee & Wu, 2017; Lipman, 2004). Students that are in tracking classes are put into low-level tracks until the students are able to perform well enough to move into general education tracks or advanced tracks (Houtte et al., 2012). Even if the students were moved to higher-level tracks, the schools that students attend still might not offer an art class at the middle school level (Lee & Wu, 2017; Lipman, 2004).

School tracking has been a key component in the education system (Houtte et al., 2012). Students move through the educational system on different tracks based on their ability to perform academically (Houtte et al., 2012). Some students are able to perform at higher levels academically and are placed in general education or advanced tracks while other students can be placed in low-level tracks (Houtte et al., 2012). The education track of a student has traditionally determined the long-term socioeconomic status of an individual

(Houtte et al., 2012; Reichelt et al., 2019). The higher the education, the higher the socioeconomic status that the individual has the potential to obtain (Houtte et al., 2012; Reichelt et al., 2019).

A student's academic performance is measured based on scores on in-class assignments, homework, quizzes, in-class tests, and standardized tests (Houtte et al., 2012). A student's academic performance does not factor in the student's engagement during the time of instruction (Houtte et al., 2012). A student could potentially perform lower academically if the student is simply not engaged during the time of instruction (Houtte et al., 2012). As a result of a student not being engaged during instruction, a student can be mistakenly placed in a low-level school track (Houtte et al., 2012). Some low-level school tracks are stigmatized which can cause a student to feel out of place, making it more difficult for a student to stay engaged to reclassify back into general education (Houtte et al., 2012).

School tracking has the potential to effect the level of education that students receive, the education that students' parents receive, along with the class and income of families (Reichelt et al., 2019). Tracking can effect the programs and curriculum that schools implement or the programs and curriculum that is available to students (Reichelt et al., 2019). One of the key causes of achievement gap has been school tracking (Reichelt et al., 2019). As a result of tracking there has been a lack of differentiation in the way that students are taught with the intention of preparing students for high-stakes testing (Reichelt et

al., 2019; Winders & Smith, 2019).

High-Stakes Testing's Impact on the Achievement Gap

An achievement gap occurs in testing when low-income communities of color have fewer resources to prepare for high-stakes tests, thereby creating a gap in the scores of low-income communities of color when compared to more affluent communities in the U.S. (Grodsky et al., 2008). As a result in the difference in income, students that live in low-income communities continue to earn low test scores, while students in affluent communities continue to receive higher test scores (Grodsky et al., 2008). Qualitative research conducted in California by Grodsky et al. (2008) found that the difference in parents' socioeconomic status was influenced by standardized test scores that the adults received as students. The scores earned on standardized tests, used for college and graduate admissions, were crucial determinates of the adults' socioeconomic income in the study. Grodsky et al. (2008) used data from the National Assessment of Education Progress gathered by the United States Department of Education. Grodsky et al. (2008) examined parents' reading and math scores when they were 13 years old to determine if there was a relationship between the scores of the students and the income that they received as adults. Grodsky et al. (2008) found that the reading and math achievements remained unchanged between 1984 and 2004 for adults that did not attend college. In contrast, students that were college-educated performed higher by 30 points during that same period. Grodsky et al. (2008) suggest that gaps in scores for standardized

tests increase with individuals from low socioeconomic backgrounds. Title I funding is supposed to substitute for the differences in parent income (Grodsky et al., 2008).

However, achievement gaps continue to exist while funding and resources of public schools are partially dependent on high-stakes tests' performance (Schniedewind & Tanis, 2017). Funding and resources of public schools are partially dependent on high-stakes tests' performance (Schniedewind & Tanis, 2017). Schools that perform better on high-stakes tests receive more funding, while schools that perform poorly on high-stakes tests receive less funding and resources (Schniedewind & Tanis, 2017). Low-income communities lack the funding and resources needed to inform these parents in low-income communities that they have the right to opt-out of high-stakes tests (Schniedewind & Tanis, 2017). In more affluent communities, principals and teachers had open forums that informed parents of their right to opt-out of high-stakes tests (Schniedewind & Tanis, 2017).

As a result of the *Serrano v. Priest* case and Proposition 13 in California, affluent communities voted to place a cap on the amount that they were taxed (Townley & Schmieder, 2010). The reasoning for the cap was that affluent communities wanted the taxes that they paid to go toward the schools that were in the affluent communities (Townley & Schmieder, 2010). Affluent families did not want their taxes to go toward funding low-income communities that needed additional services and resources to make education equitable (Townley &

Schmieder, 2010).

Families in more affluent communities are able to afford the additional services and programs to better prepare their students for high-stakes tests with or without the provided funding (Schniedewind & Tanis, 2017). Affluent communities have an economic advantage that allow for the students to continue to receive funding for programs (Schniedewind & Tanis, 2017). Low-income communities do not have the same economic advantage as affluent communities and low-income communities depend on government funding to continue school programs (Schniedewind & Tanis, 2017). The education that students receive is reflective of the economic status of the communities that the students live in (Schniedewind & Tanis, 2017). Low-income communities of color are less likely to know that they have the right to opt-out of high-stakes tests and prevent the negative effects of school tracking (Schniedewind & Tanis, 2017).

Sackett et al. (2012) researched whether the education that students received is a strong determinant of an individual's social status and that the education that is received is responsible for college admissions in California. The study researched whether the scholastic assessment test (SAT) scores effect the level of education and social class of students and the students' parents (Sackett et al., 2012). The study included data from secondary schools, the socioeconomic status from 143,606 students at 110 colleges, and SAT scores (Sackett et al., 2012). The study concluded that parental socioeconomic status and SAT scores were significant factors of determining college admission

(Sackett et al., 2012). A separate study in Texas found that a family's socioeconomic status and parents' education level effected the opportunities that are available to their children in the future (Crosnoe & Muller, 2014). To further show how an art education can potentially counter the negative effects of testing, Adejumo (2010) explains how relevant art approaches benefit students in low-socioeconomic communities.

Adejumo (2010) studied how an art program in low-income communities had an impact on students when the content was relevant to the students' community. The participants in the study included participants who were between five to sixteen years old with 98% of the students were African American and 2% were white (Adejumo, 2010). The research methodology, conducted over a ten-year study, were participant-observations using themes and interviews. Findings from the Adejumo (2010) study showed that art programs improved the critical consciousness, self-empowerment, social awareness, and activism of both the learners in the program and the community that experienced the effects of social reproduction. The study also found that the involvement of the individuals in the community art program enhanced participants' self-esteem, pride in their community, and enthusiasm for participating in future community projects (Adejumo, 2010).

Students Perceptions of High-Stakes Testing

The purpose of the qualitative analysis research conducted by Campos-Holland et al. (2016) was to examine how students of color experience and

perceive standardized tests. The study's design and the methodology included semistructured interviews with 73 youth participants (Campos-Holland et al., 2016). The study's sample included 34 girls and 39 boys whose ages ranged from ages 13 to 18 in 6-12th grade in the United States (Campos-Holland et al., 2016). The study's findings were based on the perceptions that the students had standardized tests during the interviews conducted. The students' perception varied across grade levels and with students that attended 61 schools that ranged from magnet, charter, technical, and community schools (Campos-Holland et al., 2016). The study's results showed that students were experiencing testing overload "under conflicting adult authorities and within an academically stratified youth peer culture on an ever-shifting policy terrain (Campos-Holland et al., 2016)." Students found that standardized tests were beginning to have increased difficulty in addition to the use of technology that they were unfamiliar with (Campos-Holland et al., 2016). Other students found that the tests were not relevant because they discovered that the exams were asking similar questions and became repetitive (Campos-Holland et al., 2016). Adults who were administering the tests for the students noticed that students were finishing portions of the tests in five minutes, even though the test was designed to take approximately 45 minutes (Campos-Holland et al., 2016). In the study, students described results as "the use of test scores to determine youth's educational opportunities was unjust of and potentially harmful to their academic journeys (Campos-Holland et al., 2016)."

Perceptions of Art Caused by High-Stakes Testing

If students do not perform well on standardized tests, the schools did not receive funding for programs that were not considered part of the core curriculum and classes such as art were reduced (Wexler, 2014) The perception that led up to the reduction of art classes is that students do not need art to prepare for tests and one art class is sufficient for students to graduate from high school in California (Wexler, 2014). Some middle schools in California have eliminated art classes to implement other programs believed to help students perform higher on high-stakes tests (Wexler, 2014). An emphasis in schools has been placed on core classes such as mathematics, science, English, and history that students are being assessed on in the high-stakes tests while art has been nearly eliminated within schools in California (Wexler, 2014).

There is a perception in the United States that students do not need art (Lee & Wu, 2017). This perception has been created with the goal of the United States using high-stakes testing to measure student academic success (Lee & Wu, 2017). Student academic success is supposed to be a measurement of how prepared students are for higher education and future careers (Lee & Wu, 2017). Students are supposed to be prepared to take high-stakes testing through the curriculum based on state standards that students are taught (Lee & Wu, 2017). The viewpoint of corporations, politicians, and lawmakers have instead been focused on students' scores on high-stakes tests and not the overarching

goal of preparing students for higher education and future careers (Lee & Wu, 2017).

The corporations, politicians, and lawmakers are correct when they say that students do not need art to prepare for tests but they are not asking if art is preparing students for higher education and future careers (Wexler, 2014). There has been data that shows that as the U.S. continues to be dependent on high-stakes testing to assess the performance of student learning, students are not performing better on state assessments nor is the U.S. outperforming other countries in reading, writing, and math (Standardized Tests, 2019). Even if art not benefiting students on high stakes tests was a valid argument, there have been studies that show that art has the potential to increase student achievement in other disciplines by creating higher-order learning processes by utilizing Bloom's taxonomy and Webb's Depth of Knowledge (DOK) (Tamilselvi & Geetha, 2015). Art also has the potential to be interdisciplinary and uses multiple intelligences for student academic achievement (Tamilselvi & Geetha, 2015).

To address the methods of standardized testing that contribute to negative experiences of students, I draw on the frameworks of critical pedagogy and critical race theory. The literature will examine the experiences of an art teacher implementing art education with creative learning principles to cultivate students' creative self-efficacy and divergent thinking at one middle school in the Inland Empire located in Southern California. Ideally, the results of this study could be used by educational leaders to integrate more art education classes into the

school curriculum to cultivate students' creative self-efficacy and divergent thinking. Students who experience art education with creative learning principles incorporates designing, creating, critiquing, interpersonal and intrapersonal relationships have the potential to attend higher education and opportunities in innovative careers (Hass-Cohen et al., 2008; Puente-Díaz & Cavazos-Arroyo, 2017; H. Robinson, 2013).

Organization of the Literature Review

This literature review is organized according to the following major themes: (a) the history of art education, (b) conceptual framework, (c) theoretical framework, and (d) rethinking art education to enact critical consciousness. The literature review concludes with a summary of the critical points outlined throughout the literature.

The History of Art Education

Art Education During the Renaissance

During the Renaissance period, beginning in the 14th century and ending in the 17th century, art was a part of all of the other disciplines such as math, science, and literature (Burnaford, 2001; Burns Gilchrist, 2016; Cevik, 2018; Qian & Plucker, 2018; Renaissance, 2015; Schaff, 1891; Whitmire K & Beck J, 2010). During the Renaissance, art was an integral role in contributing to society through innovation by using art to explore science, technology, engineering, and math (STEM) (Burnaford, 2001; Burns Gilchrist, 2016; Cevik, 2018; Qian &

Plucker, 2018; Renaissance, 2015; Schaff, 1891; Whitmire K & Beck J, 2010). Many of the well-known artists during the Renaissance, including Leonardo da Vinci and Raphael, integrated art into multiple disciplines (Whitmire K & Beck J, 2010).

Leonardo da Vinci studied anatomy, created blueprints for engineering and various inventions (Qian & Plucker, 2018; Schaff, 1891). During the Renaissance, Leonardo da Vinci was using art to design innovative early concepts for modern day inventions such as the helicopters, parachutes, and robotics (Qian & Plucker, 2018; Renaissance, 2015). Leonardo da Vinci worked as an engineer to design water canals for Louis XII and machines to protect the city for the lord of Milan Ludovico il Moro (Qian & Plucker, 2018; Renaissance, 2015). Leonardo da Vinci depicted these engineering innovative plans by using illustrations and mathematics (Qian & Plucker, 2018; Renaissance, 2015).

Raphael studied science and math to use a one-point perspective technique and atmospheric perspective to create paintings that were more accurate depictions of reality (Burnaford, 2001). Many of the lessons learned need to be reintroduced from the Renaissance into the classroom to promote innovation and creativity (Burnaford, 2001; Macdonald, 2018; Perignat & Katz-Buonincontro, 2018). Going further back during ancient architecture and communication, science, technology, engineering, art, and math (STEAM) was used (Cevik, 2018). Typography, the Roman alphabet, cuniforms, hieroglyphics are all forms of art and have all had roles in how societies have evolved to

communicate today using innovation that embraced art education through design and illustrations (Meggs, 2012).

Innovation. Innovation occurs when interdisciplinary information in combined to create a new solution or product to solve a problem through project-based learning (V. A. Ellis, 2016). Innovation is thinking through a problem, using possible preexisting technology or ideas, experimenting, working collaboratively to think from multiple perspectives, and developing a solution that is more effective than the previous solution (Heilman, 2016; Issacson, 2017). The thought process that occurred during the Renaissance incorporated multiple disciplines of math, science, and art to develop innovative solutions. Acar and colleagues (2017) determined that divergent thinking and creativity were necessary in order for innovation to occur. During the Renaissance, Leonardo da Vinci was using art to design and engineer innovative inventions (Burnaford, 2001; Macdonald, 2018; Perignat & Katz-Buonincontro, 2018). Today, Apple, the technology company located in California, has made contributions to developing innovative solutions to make improvements in the computer and phone industries (Hjorth et al., 2012). Apple did not invent the phone but instead reinvented the phone (Hjorth et al., 2012). Apple used preexisting technologies such as the internet, phone, video, camera, calculator, music player, and reinvented how all of these devices can be combined into one single device called the iPhone (Hjorth et al., 2012). As innovation becomes increasingly important for employers, individuals will need to be able to differentiate themselves from other potential candidates

through divergent thinking (Du & Chemi, 2017; Macdonald, 2018).

Art education needs to be redesigned as a required subject throughout general education to get students prepared for careers that require divergent thinking in order to compete with other countries through innovation (Macdonald, 2018; Pate, 2016).

Although integrating art into other disciplines has benefits that improve student interest and student engagement, art should not be incorporated by educators for ultimately improving just test scores (Cevik, 2018; Guyotte et al., 2015; Perignat & Katz-Buonincontro, 2018). It is important that educators and policymakers in California recognize how art has historically been a part of the learning process (*2018 Social Progress Index*, n.d.; Pate, 2016). Art is valuable as its own course for students which improves creativity, innovation, and divergent thinking across different fields of work and education through project-based learning (*2018 Social Progress Index*, n.d.; Pate, 2016). In art education, students learn the same process of innovating project-based learning (Baker, 2013). Project-based learning is a component of art education where students plan, experiment, develop, create, and redevelop their artwork if necessary in order to meet the desired outcome of the student for the individual assignment (Baker, 2013).

It is also important that educators and policy makers in California look at how countries such as Norway, Iceland, Switzerland, Denmark, and Finland are leaders in innovation, have moved away from high-stakes testing, and

incorporated the arts into their curriculum (D'Acci, 2011; Natoli & Zuhair, 2011; Pate, 2016). Incorporating art education as a required course for middle school students is worthy of research since art classes and the humanities have received less funding compared to science and mathematics. As part of this research we can assess how schools are mediators of low levels of learning through the banking model (Apple, 1978; De Lissovoy, 2014; Freire, 2000; Lee & Wu, 2017; Shapiro & Hassinger, 2008; Smyth, 2008; Wexler, 2014). The common misconception by policy makers remains that art only uses low-levels of thinking and is only valued for affective or aesthetic contributions (Boehner, 2002; K. Robinson, 2017; Wexler, 2014).

The Historical Role of Art in Education

As the economy in the U.S. has become more dependent on high-stakes testing, there has been a focus on what content should be taught by educators to be economically competitive (Darder et al., 2017). The U.S. continues to not take into consideration how content could be taught successfully by art educators and how art education has been implemented successfully in the past (Burnaford, 2001; Burns Gilchrist, 2016; Cevik, 2018; Qian & Plucker, 2018; Renaissance, 2015; Schaff, 1891; Whitmire K & Beck J, 2010). Literature indicated that art has historically been interdisciplinary when looking at how societies have explored science, technology, engineering, and math (STEM) (Burnaford, 2001; Burns Gilchrist, 2016; Cevik, 2018; Qian & Plucker, 2018; Renaissance, 2015; Schaff, 1891; Whitmire K & Beck J, 2010). STEM has become the latest effort to reframe

Common Core and No Child Left Behind (NCLB) to prepare students for future innovative careers and to prepare students to have the skills that corporations are looking for (Perignat & Katz-Buonincontro, 2018; Wexler, 2014). There has even been some effort to integrate art into STEM to create a science, technology, engineering, art, and math (STEAM) curriculum (Guyotte et al., 2015; Perignat & Katz-Buonincontro, 2018).

Art education needs to be a required subject that students receive throughout their PK-12 education. Currently, art education is a required course that students only need to take for one year in high school (*California Department of Education*, 2020; National Art Education Association, 2014). In California, art education is not a course requirement for students general education in middle school and elementary school (*California Department of Education*, 2020; National Art Education Association, 2014). Due to high-stakes testing, students are only required to take one course of art during their PK-12 education but only until high school (Wexler, 2014). Schools with less financial resources for testing preparation, began to score lower on standardized tests (Wexler, 2014). As a result, these school began to eliminate art education for programs that were believed to raise students' reading, writing, and math standardized testing scores (Wexler, 2014). Funding that was used for art education was reallocated for programs believed to help students academically and score higher on standardized tests (Wexler, 2014). Art education needs to be redesigned as a required subject throughout general education to get students prepared for

careers that require divergent thinking in order to compete with other countries through innovation (Macdonald, 2018; Pate, 2016).

Since there has been an emphaisis on preparing students for high-sakes testing in the United States, there are few districts that incorporate art education in to their curriculum since there is no dedicated funding for art (Wexler, 2014). It is also important that educators and policy makers in California take into consideration at how low-socioeconomic schools in other states such as Vermont began integrating an art-based curriculum (Eagleman, 2019). In Burlington, Vermont the Integrated Arts Academy (IAA) have implemented a curriculum that the schools incorporate art education into math, science, and English (Eagleman, 2019). Since the schools in Burlington, Vermont have integrated art into their core curriculum, they have seen an increase in student engagement and academic achievement (Eagleman, 2019).

The purpose of incorporating high-stakes testing was to prepare students for future careers and higher education to compete economically with other countries (Wexler, 2014). In reality, other countries such as Norway, Iceland, Switzerland, Denmark, and Finland are leaders in innovation, have moved away from high-stakes testing, and incorporated the arts into their PK-12 curriculum (D'Acci, 2011; Natoli & Zuhair, 2011; Pate, 2016). Incorporating art education as a required course for middle school students is worthy of research since art classes and the humanities have received less funding compared to science and mathematics. The common misconception by policy makers remains that art only

uses low-levels of thinking and is only valued for affective or aesthetic contributions (Boehner, 2002; K. Robinson, 2017; Wexler, 2014).

Benefits of Art in Education

Other emerging or developed economies integrate art education into their curriculum because these countries recognize the benefits that art has on innovation and the countries long-term economy (D'Acci, 2011; Natoli & Zuhair, 2011; Pate, 2016). For the middle school students in California to be innovative and competitive, students should have art courses throughout their general education to produce higher levels of thinking, self-efficacy, and divergent thinking (Du & Chemi, 2017; Macdonald, 2018). Art education cultivates and nurtures self-efficacy through the production of art beyond age three by using creative learning processes through project-based learning (V. A. Ellis, 2016). While enrolled in a middle school, students need the opportunity to continually develop their divergent thinking through art education (Dewey, 1959).

Art education also improves student achievement in other disciplines by creating higher-order learning processes by utilizing Webb's Depth of Knowledge (DOK), multiple intelligences to cultivate self-efficacy, and divergent thinking for student academic achievement (Gardner, 1999; Hamblen, 1984; Tamilselvi & Geetha, 2015). Traditional ways of teaching are not preparing students for attaining the goal of preparing students for higher education and future careers. Students have the potential to receive an alternative form of engagement through art education. Though art education, students have the opportunity to receive

differentiation and accommodations while learning core content through multiple intelligences (Gardner, 1999; Hamblen, 1984; Tamilselvi & Geetha, 2015).

Multiple Intelligences. As a result of tracking, scholars have identified that teaching has been limited to banking approaches to education for the sake of high-stakes testing (Reichelt et al., 2019; Winders & Smith, 2019). Gardner (1999) has explored the idea of multiple intelligences that differentiates learning into the different domains that students obtain knowledge. Multiple intelligences are an essential learning approach because students may be able to acquire knowledge more effectively as opposed to the traditional banking method (Gardner, 1999; Macdonald, 2018). Multiple intelligences not only has the potential to encourage divergent thinking but is designed for students to obtain knowledge in a way that is suitable for the students' learning domain and ability (Gardner, 1999; Macdonald, 2018). When students learn in a domain that meets the students' preferred method of learning, students will be able to understand the content being taught by teachers while maintaining the students' self-efficacy (Gardner, 1999; Houtte et al., 2012).

The multiple intelligence domains are bodily-kinesthetic, interpersonal, intrapersonal, linguistic, logical-mathematical, musical, naturalistic, and spatial (Gardner, 1999; Macdonald, 2018). Gardner (1999) detailed the different types of intelligence that students have to show the different ways that students learn information from their peers and their teachers. Since individual students learn through various teaching styles, educators must diversify their teaching methods

to make their teaching accessible for the diverse learners in their classrooms (Gardner, 1999; Macdonald, 2018). The teaching strategy that showed to be successful in getting students to understand the lessons, despite the type of intelligence that the student had, was using art (V. A. Ellis, 2016; Hamblen, 1984; Macdonald, 2018; Tamilselvi & Geetha, 2015). Teachers were able to use art to accommodate and differentiate lessons for students based on the type of intelligence that showed to be a more successful learning strategy for the students (V. A. Ellis, 2016; Hamblen, 1984; Macdonald, 2018; Tamilselvi & Geetha, 2015). Gardner (1999) proposes that individual thinking can become more complex and more abundant by posing different levels of sophisticated questions instead of measuring intelligence solely based on intelligence quotient (IQ). Individual thought becomes more complex and more abundant when learners hear or observe others at a higher level of thinking (Gardner, 1999; Macdonald, 2018). Students are more engaged when their preferred learning domain is implemented through multiple intelligences by teachers. Students are also able to improve in learning domains that students are struggling in as teachers differentiate lessons using different modalities for other students that prefer other domains (Gardner, 1999; Macdonald, 2018). Collectively, all of the categories of art can be placed within all of the domains of Gardner's multiple intelligences by educators (Armstrong, 2018; Gardner, 1999; Macdonald, 2018; K. Robinson, 2017; Salehi Baladehi & Shirazi, 2017). As teachers expose

students to different domains of learning, students can potentially learn lessons from multiple perspectives and cultivate divergent thinking.

Gardner's idea of bodily-kinesthetic intelligence allows learners to perform hands-on tactile tasks to physically produce products through project-based learning (Armstrong, 2018; Gardner, 1999). Interpersonal intelligence is the ability of an individual to interpret and distinguish the mood, motivations, and feelings of others (Armstrong, 2018; Gardner, 1999). Intrapersonal intelligence is the ability of an individual to be self-aware of the strengths and weaknesses of one's self (Armstrong, 2018; Gardner, 1999). Linguistic intelligence is the ability of an individual to communicate effectively, both orally or written (Armstrong, 2018; Gardner, 1999). Logical-mathematical intelligence allows an individual to calculate numbers effectively, such as a scientist or computer programmer (Armstrong, 2018; Gardner, 1999). Musical intelligence is the capacity to critique, compose, and perform music while being able to identify rhythm, pitch, or melody (Armstrong, 2018; Gardner, 1999). Naturalistic intelligence is an individual's knowledge of the environment that includes species and natural phenomena (Armstrong, 2018; Gardner, 1999). Spatial intelligence consists of the ability to construct visually represented ideas such as in the case of architects, artists, or inventors (Armstrong, 2018; Gardner, 1999).

Visual-Spatial can be used while analyzing artwork during written critiques and while mixing colors to create a color wheel (Tamilselvi & Geetha, 2015). Linguistic-Verbal intelligence is used when participants respond verbally to quick

write questions or while creating stories, poems, and poetry (Tamilselvi & Geetha, 2015). Interpersonal intelligence can be achieved when students collaborate in pairs, groups, or as a whole class (Tamilselvi & Geetha, 2015). Intrapersonal students are appealed to when students create individual artwork, reflect on artwork, and improve artwork (Tamilselvi & Geetha, 2015). Logical-Mathematical intelligence is incorporated through the techniques and tools that students use including using compasses, rulers, one-point perspective, atmospheric perspective, two-dimensional or three-dimensional drawing renders, and design (Tamilselvi & Geetha, 2015). Musical intelligence in VAPA is demonstrated when students are involved in orchestra and band with the opportunity to use instruments (Tamilselvi & Geetha, 2015). Bodily-Kinesthetic intelligence is used when students use motor skills to use tools or when students are involved in the performing arts through dancing and acting (Tamilselvi & Geetha, 2015). Naturalistic intelligence can be introduced to students by using the environment as a reference, resource, or subject for instruction (Tamilselvi & Geetha, 2015).

Tamilselvi and Geetha's (2015) theory is that incorporating Gardner's multiple intelligences into lessons positively effect the progress of the students while also providing the students with the optimum learning environment. The research examines each type of intelligence, including verbal/linguistic intelligence, logical/mathematical intelligence, interpersonal intelligence, intrapersonal intelligence, naturalistic intelligence, existential intelligence,

musical, kinesthetic, and spatial intelligence (Tamilselvi & Geetha, 2015). The study's research purpose is to show how multiple intelligence teaching strategies can be used for self-efficacy by educators in the classroom (Tamilselvi & Geetha, 2015). The research design of the study uses content analysis (Tamilselvi & Geetha, 2015). The research methodology is an analysis of Howard Gardner's Multiple Intelligences (Tamilselvi & Geetha, 2015). The study's significant finding is that students have multiple intelligences and learn differently (Tamilselvi & Geetha, 2015). The study's limitations are that the study describes how educators can implement multiple intelligences but do not give an instance of a similar study conducted in the past (Tamilselvi & Geetha, 2015). A recommendation for future research would be to conduct a study with actual students as participants that utilize multiple intelligences to complete a given class assignment (Tamilselvi & Geetha, 2015). As a part of this recommendation, students will learn about specific content for a lesson but will be able to submit student work that is preferable to a students' strength. A gap in the Tamilselvi and Geetha's (2015) study requires that the lesson be implemented in a class with an optimum learning environment. Tamilselvi and Geetha (2015) do not define an optimum learning environment by class size, available funding, school support, and does not consider that a learning environment can be unpredictable.

First Criticism of Multiple Intelligences. Since the inception of multiple intelligences, there have been broad general criticisms of the theory. Much of the criticism that multiple intelligences have received is dated back to the early 1900s

before Gardner developed the theory. One criticism of multiple intelligences was that there was not enough research on the effectiveness of multiple intelligences since there was no empirical support from the testing community (Armstrong, 2018). In contrast, the majority of teachers and administrators that have used Gardner's multiple intelligences were more familiar with the positive effects of multiple intelligences that were used to engage students and comprehend knowledge (Armstrong, 2018).

Critics believed that there was only one overarching intelligence referred to "Spearman's g" or "the g factor" (Armstrong, 2018). The g factor was developed during the early 1900s and believed that individuals who took one cognitive test would receive the same score on another cognitive test (Armstrong, 2018). "The g factor was discovered by the first cognitive testers, who found that people who scored well on one type of cognitive test tended to score well on all of them (Armstrong, 2018). Regardless of their contents (words, numbers, pictures, shapes), how they are administered (individually or in groups; orally, in writing, or pantomimed), or what they intended to measure (vocabulary, mathematical reasoning, spatial ability), all cognitive tests measure mostly the same thing" (Armstrong, 2018).

Second Criticism of Multiple Intelligences. Another criticism that multiple intelligences has received was a debate about semantics and Gardner's use of the word "intelligence" (Armstrong, 2018). Critics believed that what Gardner was referring to as "intelligences," should instead be referred to as "capacities" or

“human cognitive abilities” (Armstrong, 2018). The second part of this criticism was that these intelligences were secondary or even tertiary to the g factor (Armstrong, 2018). There was never a debate about whether the multiple intelligences existed or if the g factor existed (Armstrong, 2018). Instead, Gardner acknowledged that the g factor existed as the logical-mathematical intelligence (Armstrong, 2018). However, Gardner recognized in his theory that logical-mathematical intelligence was as equally important to the seven other intelligences as well (Armstrong, 2018). For Gardner to classify a type of intelligence, the intelligence had to be able to produce empirical data based on the following eight-part criteria (Armstrong, 2018).

The first part of the criteria was potential isolation by brain damage (Armstrong, 2018). For the first part of the criteria, Gardner observed intelligences that people continued to have at the Boston Veterans Administrations (Armstrong, 2018). For some of these patients, they had difficulty with reading and/or writing after an illness or accident but were still able to sing, dance, or do math (Armstrong, 2018).

The second part of the criteria is the existence of savants, prodigies, and other exceptional individuals (Armstrong, 2018). The second part refers to individuals who have unique abilities computing mathematical equations or having the ability to play a composition after only hearing it for the first time (Armstrong, 2018).

Gardner’s third part of the criteria is a distinctive developmental history

and a definable set of expert “end state” performances (Armstrong, 2018). The third state refers to when individuals begin to develop their intelligence (Armstrong, 2018). The third criterion was based on Gardner’s ability to identify individuals who have reached the end-state of intelligences (Armstrong, 2018). Noam Chomsky and Lev Vygotsky would be examples of the end-state of Linguistic intelligence. Mozart or Beethoven would be examples of the end-state of Musical intelligence (Armstrong, 2018).

The fourth part of Gardner’s criteria is evolutionary history and evolutionary plausibility (Armstrong, 2018). The early cave paintings in Lascaux, France are evidence of how human beings have evolved to today’s visual intelligence through user experiences on mobile devices and the internet (Armstrong, 2018).

The support from psychometric findings is the fifth part of the criteria (Armstrong, 2018). The fifth part of the criteria requires that the intelligences that Gardner identified can be measured through assessments (Armstrong, 2018). For example, the Wechsler Intelligence Scale for Children assessed Verbal intelligence through vocabulary, Visual intelligence through picture arrangement, and Bodily/Kinesthetic intelligence through coordination and object assembly (Armstrong, 2018).

The sixth part of the criteria recognizes that support from experimental psychological tasks requires that each intelligence can be isolated and identified from one another (Armstrong, 2018). This sixth part of the criteria identifies how

some individuals have superior memories, perceptions, and attention (Armstrong, 2018). These individuals can demonstrate different levels of proficiencies based on individual intelligences.

An identifiable core operation, or set of operations, is the seventh part of the criteria (Armstrong, 2018). An example of a core operation is how Musical intelligence includes sensitivity to pitch or rhythm (Armstrong, 2018). A core operation can be how an intelligence depends on a type of precision to perform the kind of intelligence (Armstrong, 2018).

The eighth and final part of the criteria is susceptibility to encoding in a symbol system (Armstrong, 2018). An intelligence must be able to develop its symbol, or notational systems, to meet the last part of the criteria (Armstrong, 2018). For example, designers, architects, and engineers rely on Visual intelligence for the graphical languages that they use (Armstrong, 2018). Critics of multiple intelligences rely on instruments that measure intelligence through the use of numbers and standardized testing (Armstrong, 2018). The tools that critics use are similar to the same standardized testing that is used to measure and assess student intelligence (Armstrong, 2018). Critics of multiple intelligences measure “school-like” thinking by relying purely on g-factor intelligence (Armstrong, 2018). Gardner used several empirical studies from fields including anthropology, biology, neurology, psychology, sociology, and the arts and humanities (Armstrong, 2018).

Third Criticism of Multiple Intelligences. The third criticism is that there are

no practical uses for students to use multiple intelligences in school (Armstrong, 2018). This criticism is self-deprecating of the current education school system itself. The critics of this claim believe that all students think the same and, therefore, should be taught the same (Armstrong, 2018). For these critics, multiple intelligences are not relevant to the school system because critics believe that all students learn the same (Armstrong, 2018). This is not a criticism of multiple intelligences as the researchers intended but instead a criticism with the way that educators fail to design the school system to meet the needs of students (Armstrong, 2018). If multiple intelligences do not apply to the K-12 school system, this does not mean that multiple intelligences are not applicable to future careers or higher education. This criticism is only an admission that critics believe that students do not need multiple intelligences for standardized testing.

Gardner developed his theory of multiple intelligences in 1983 (Armstrong, 2018). Critics adopted the criticism of multiple intelligences during the Reagan presidential administration, which began to cut funding to art classes and implement standardized testing (Armstrong, 2018). Critics of multiple intelligences favored quantitative data as valid research (Armstrong, 2018). The critics of multiple intelligences tend to be critics of qualitative forms of data collections as they reduced students to numbers through quantitative data (Armstrong, 2018). Critics of multiple intelligences do not consider the experiences of students when analyzing data (Armstrong, 2018). By 2001, the

No Child Left Behind law was implemented and left no flexibility for controlled studies to exist in experimental classrooms (Armstrong, 2018). With the implementation of No Child Left Behind and its ties to school funding in low-socioeconomic communities, there have been little to no studies that constitute valid research in the United States (Armstrong, 2018). Schools in low-socioeconomic communities would otherwise risk losing their funding if the school chose not to include state standards (Armstrong, 2018).

Multiple intelligence studies, conducted in the United States, do not exist because there is not a singular way to incorporate multiple intelligences (Armstrong, 2018). Multiple intelligences are not a single teaching strategy but instead a range of strategies, techniques, attitudes, tools, and methods for teachers to incorporate (Armstrong, 2018). Integrating multiple intelligences at one school with limited resources would be different at another school with various resources (Armstrong, 2018). What might be relevant to learn at one school for a group of students might not be relevant to another group of students at a different school (Armstrong, 2018).

Universities have worked with educators, administrators, and students around the world to research the positive effects of multiple intelligences (Armstrong, 2018). In 2004, Columbia University honored multiple intelligenc researchers and theoreticians with the prestigious Teachers College Record (Armstrong, 2018). In separate research, Harvard University studied cognition and the arts in different ways, including multiple intelligences in a program

referred to as Project Zero (Armstrong, 2018; *Project Zero*, 2020). Project Zero has worked with practitioners in the United States and around the world (*Project Zero*, 2020). Conventionally, researchers believe that thinking is a result of learning in a linear directional way (*Project Zero*, 2020). Project Zero has recognized that learning is a positive outcome of thinking that occurs interchangeably back and forth between learning and thinking (*Project Zero*, 2020).

Researchers should not reduce the effectiveness of multiple intelligences to the success or failure of a student on high stakes testing (Armstrong, 2018). Standardized testing does not measure a student's engagement, progress, perception toward school, problem-solving, and documentation of the learning process to projects and portfolios (Armstrong, 2018). Improvements in all of these factors are not taken into consideration by researchers in the g-factor (Armstrong, 2018).

Fourth Criticism of Multiple Intelligences. The fourth criticism is that Multiple Intelligences "dumbs down the curriculum to make all students mistakenly believe they are smart" (Armstrong, 2018). This criticism claims that multiple intelligences are used by educators to simplify learning to create the perception that all students are learning (Armstrong, 2018). The other part of this criticism is that learning cannot be rigorous if students are using their strongest intelligence to learn a given topic (Armstrong, 2018). The response to this criticism comes from academics and journalists who are far removed from the

classroom (Armstrong, 2018). These critics believe that lectures, textbooks, and standardized testing are enough (Armstrong, 2018). Students are expected, by researchers, to learn one content area without being able to connect it to other content areas (Armstrong, 2018). Educators who incorporate multiple intelligences in their classrooms understand that content areas should be taught simultaneously for learning to occur by students (Armstrong, 2018). These educators use multiple intelligences to engage the complete selves of the students and see the difference that it makes in the lives of the students.

Fifth Criticism of Multiple Intelligences. The fifth criticism of multiple intelligences is that humans only use 10% of their brains to read, write, speak, and do math (Boyd, 2008; Jarrett, 2015). The myth that humans only use 10% of their brain has been perpetuated and popularized by celebrated scientists such as Albert Einstein and Professor William James of Harvard (Boyd, 2008; Jarrett, 2015). When scientists believed that humans used just 10% of their brain, then qualified scientists such as Albert Einstein should have been encouraged to explore the intelligences attributed to the other 90% of the brain. If the 10% myth were true, that would be enough evidence of how much these scientists did not know about the brain and would highlight what the scientists left unexplored.

These same critics believe that individuals are just left brain or right brain thinkers (Armstrong, 2018). Intelligence was thought by researchers to be as simple as reading, writing, speaking, and math (Armstrong, 2018). Instead, the myth was a misunderstanding of neurological research that discovered the brain

consisted mainly of glial cells, which has minor functions in the brain (Kalat, 2019). The brain activated much of the research that the critics conducted and focused primarily on local neurons, or the small parts of the brain that are activated at a given time (Armstrong, 2018).

Criticism of Multiple Intelligences grew at the same time as the argument that art education is not a priority for students in general education (Armstrong, 2018; Wexler, 2014). There were never any legitimate criticisms of multiple intelligences (Armstrong, 2018). Instead, the criticism served as evidence of how little researchers knew about the brain (Armstrong, 2018). The lack of research led to myths about art education, the implementation of standardized testing, and the prioritization of specific content areas (Armstrong, 2018). Outdated myths have continued to have their lasting effects on the core content that is prioritized (Armstrong, 2018). Today, general education compartmentalizes core content into separate courses based on the misconception of the research conducted during this time (Armstrong, 2018). By having different core contents such as math and English is acknowledging that there are different intelligences. Separating these two core contents is also limiting students' knowledge (V. A. Ellis, 2016). If knowledge remained compartmentalized, then innovation would be unlikely to occur (V. A. Ellis, 2016). Innovation occurs at the intersections and connections where these different content areas meet (V. A. Ellis, 2016). For example, formulas from math need to be combined by a scientist with a design from art for engineering a new invention.

Examples of teaching strategies can exist as differentiation and accommodating lessons for students (Armstrong, 2018). When students do not have accommodations, differentiation, or choice, students will likely not be engaged in an assignment (Armstrong, 2018). When students' physical or cognitive abilities are not met, this can lead to students being placed in tracking English learning courses, intermediate math, or special needs classes (Reichelt et al., 2019; Winders & Smith, 2019). For example, if a student has developed their skills more verbally but is required to do every assignment in language arts by reading and writing then this student would be likely to fail the class. By not acknowledging the benefits of multiple intelligences, researchers are implying that since all students learn the same way, learn the same information, and as a result these students can be taught the same way (Armstrong, 2018). By acknowledging the benefits of multiple intelligences all students will have equitable opportunities to achieve higher level of learning through creative learning principles (V. A. Ellis, 2016).

Creative Learning Principles. Researchers determine creative learning principles on the level of thinking that it requires a student to solve a given problem or question (V. A. Ellis, 2016). Creative learning principles use Webb's Depth of Knowledge and Bloom's Taxonomy to gauge the level of learning that a student achieves through a simple or complex question (V. A. Ellis, 2016). Creative learning principles also uses Webb's Depth of Knowledge and Bloom's Taxonomy to determine how challenging a question is based on how in-depth a

student would have to think critically to solve the problem due to a question's complexity (V. A. Ellis, 2016). Creative learning principles incorporates higher level of learning and an art-based learning into an art course where students use hands-on learning that is interdisciplinary by integrating math, English, and science courses. Higher levels of learning require more critical thinking, creating, planning, project-based learning, and analyzing (Ellis, 2016). Lower levels of learning only require short-term recall and memorizing (Ellis, 2016).

Webb's Depth of Knowledge. Webb's Depth of Knowledge (DOK) is a tool used to determine the cognitive complexity of a question, activity, or assessment based on content state standard (Common Core Institute, 2013). Art education with creative learning principles incorporates Webb's DOK questions and problems an interdisciplinary art-based learning course (V. A. Ellis, 2016). DOK problems, or questions, have five different levels of complexity (V. A. Ellis, 2016). The higher the DOK level, the higher level of demand for critical thinking for students responding to the question or problem (V. A. Ellis, 2016). Level one questions asks students to recall information such as definitions or asks students to follow formulas (V. A. Ellis, 2016). Level two questions require that students collect, organize, and display information by following several steps or by comparing and contrasting (V. A. Ellis, 2016). Level three questions asks students to use strategic thinking to plan, justify, and explain a concept (V. A. Ellis, 2016). Level four questions uses extended thinking to connect, apply concepts, create, and experiment with students designing an artifact or product

through project-based learning (V. A. Ellis, 2016).

Bloom’s Taxonomy. Bloom's Taxonomy is a framework separated into different cognitive levels that are used by educators to measure the depth of learning that is engaged in assessment objectives (Crompton et al., 2019). Art education with creative learning principles scaffolds students from lower levels of Bloom’s Taxonomy hierarchy to various levels of thinking by using art-based learning (Hamblen, 1984). Bloom’s Taxonomy consists of six different hierarchy levels of learning objectives that are set by teachers and designed for students (V. A. Ellis, 2016). These learning objectives vary in difficulty and skill is required to solve a problem or to find a solution (V. A. Ellis, 2016). The lower-levels of Bloom’s taxonomy hierarchy are designed to scaffold students from lower-level skills to the higher-level skills which require more critical thinking (V. A. Ellis, 2016).

Level one of Bloom’s taxonomy, remembering, uses lower-level skills such as recalling, memorizing, and repeating information (V. A. Ellis, 2016). Level two, understanding, ask students to explain or paraphrase their response (V. A. Ellis, 2016). Level three of Bloom’s taxonomy, applying, requires that students can gather information and use the information in a new way (V. A. Ellis, 2016). Analyzing is level four and includes questions that compare, contrast, and experiment to find a solution (V. A. Ellis, 2016). Level five, creating, requires that students develop a new perspective or design and they assemble a new product through project-based learning (V. A. Ellis, 2016). Level six, evaluating, is the

highest level of Bloom's taxonomy, requires that the student be able to justify a decision or use judgment to support a position (V. A. Ellis, 2016). The higher-level skills of Bloom's taxonomy incorporate all of the preceding lower-level skills (V. A. Ellis, 2016). For example, level six of Bloom's taxonomy, evaluating, also includes creating, analyzing, applying, understanding, and remembering as part of the same lesson (V. A. Ellis, 2016).

Learning Through the Common Core State Standards. The Common Core State Standards (CCSS) were designed by education administrators to give teachers, parents, and students clear learning expectations to prepare students to receive the knowledge and skills to succeed in college and careers for the future (*Common Core State Standards*, 2020; Wexler, 2014). However, the CCSS does not allow students to think divergently, have multiple perspectives, nor does it enable students to use divergent thinking to find solutions to problems (Wexler, 2014). For example, the CCSS expects students to learn how to solve math problems using one way and expects them to show the work for solving the math problem in a specific way, even if the student can show work and solve the math problem using different steps (Wexler, 2014).

Instead of CCSS preparing students for college and careers in the future, the CCSS prepares students to interpret and respond to questions on high-stakes testing (Wexler, 2014). If high-stakes testing continues to be the tool used to measure students' academic achievement, general education will not prepare students for higher education and future careers. High-stakes testing will not

prepare students for real-world experiences but will instead prepare students on how to take tests.

Educators, policymakers, and corporations who rely on high-stakes testing perceive art education traditionally as a subject that only requires lower levels of Bloom's Taxonomy and lower levels of Webb's DOK (V. A. Ellis, 2016). Traditional art education in the United States is perceived only as an activity focusing on fundamentals of art, affective, aesthetic, or for the sole purpose of assisting students' scores on assessments and academic achievement (Baker, 2013). Traditional art education is perceived as beneficial as a social emotional learning activity or an activity to allow students to become more expressive (Baker, 2013). Traditional art education is also perceived as a craft to teach students the fundamentals and basics of techniques and using tools for art (Baker, 2013). Traditional art would only introduce art as a craft and not beneficial to students to cultivate higher levels of thinking (Baker, 2013).

Art education in middle school will counter these approaches by giving students the potential to develop solutions to problems through project-based learning (Baker, 2013; Wexler, 2014).

Learning Through the Arts. The visual and performing arts (VAPA) framework uses high-levels of learning that incorporate multiple intelligences in contrast to the straightforward linear CCSS which teaches curriculum through problems that have a single solution (Wexler, 2014). The current CCSS curriculum's and high-stakes tests mainly use lower level one Depth of

Knowledge (DOK) questions that favor recall and memorization, which ties into the banking model as proposed by Freire (2000) (Wexler, 2014).

Ellis (2016) researched how students can use art to solve problems that utilize Webb's Depth of Knowledge and Bloom's Taxonomy. The process of combing art, high-levels of DOK, and Bloom's taxonomy are referred to as creative learning principles (V. A. Ellis, 2016). Creative learning principles use art to scaffold students to higher levels of thinking in all levels of DOK and in each domain of Bloom's Taxonomy. The higher levels of learning make connections between previously learned information and continuously reuses the information to create unique solutions through project-based learning, which is how innovation occurs (V. A. Ellis, 2016). Students use information from multiple disciplines in education, culture, and the personal lives of students to create an innovative solution (V. A. Ellis, 2016).

When art education learning is combined with creative learning principles, students begin to think at the higher levels of Bloom's taxonomy (V. A. Ellis, 2016). Students' learning is scaffolded from the lower levels to the higher levels gradually (V. A. Ellis, 2016). When students do Quick Writes, the lower levels of Bloom and Webb are used to scaffold students' learning to make sure that students are recalling vocabulary and concepts (V. A. Ellis, 2016). As students begin to plan, modify, and revise their artwork, the middle levels of Bloom's Taxonomy are used (V. A. Ellis, 2016). At this same stage of Bloom's Taxonomy, level four of DOK is also achieved, which includes creating, designing, critiquing,

analyzing, and applying concepts (V. A. Ellis, 2016). Some of the lessons that students receive in order to think at the higher levels include creating actual artwork and critiquing their own original artwork and historical artwork (V. A. Ellis, 2016). Creating a written critique involves four different parts: Description, Analysis, Interpretation, and Judgment of their work, other students' artwork, and historical artwork (V. A. Ellis, 2016).

Ellis (2016) conducted a case study that used creative learning processes on a grading rubric that coincided with the level of Bloom's Taxonomy and Webb's DOK that included one middle school and two high school art teachers. Following daily lesson plans, students in the Ellis (2016) case study were asked to create a butterfly design that included using different levels of Bloom's Taxonomy and Webb's DOK. Students received higher grades depending on if the students used higher levels of Bloom's Taxonomy and Webb's DOK for the students' butterfly designs (Ellis, 2016). Students who did not put a lot of effort, used simple anatomy, and basic shapes for their butterfly design received a lower grade based on the rubric because the students did not choose to critique, evaluate, or recreate their design (Ellis, 2016). Students that scored higher on the grading rubric used more designed a more anatomically correct butterfly, critiqued their designs, used complex shapes, and chose to improve the butterfly design after the critique (Ellis, 2016).

Although not explicitly stated, the creative learning principles that were implemented in the Ellis (2016) study cultivated self-efficacy and divergent

thinking as students were encouraged to score higher on the grading rubric and attain higher levels of thinking. As a result of the Ellis (2016) study, students began to need less directions from the teachers and were more self-directed when art education is integrated with creative learning principles. Students in the Ellis (2016) study became more creative with their design which can be interpreted as evidence of divergent thinking. Students showed evidence of self-efficacy as students were motivated to put more effort into the butterfly designs as students redesigned the butterflies after the critiques. Students used higher levels of thinking as students made connections of what they were doing in class to how much effort the students were exerting to complete the butterfly designs (Ellis, 2016).

Art education that includes creative learning principles differs from conventional art education in the United States because art education that incorporates creative learning principles requires higher levels of learning (V. A. Ellis, 2016). In contrast to how traditional art education is perceived, art education that includes creative learning principles incorporates project-based learning that is interdisciplinary (V. A. Ellis, 2016). Creative learning principles encourages students to develop original ideas and solutions different from other students' ideas and solutions (V. A. Ellis, 2016).

Interdisciplinary Learning Through Art. Despite the DOK that a lesson was based on, art lessons can be scaffolded to help students gain a deeper understanding of the content (Hamblen, 1984). When a student was able to

understand the content at a Level one of DOK, self-efficacy levels increased which helped to motivate a student to challenge themselves (V. A. Ellis, 2016). When a lesson was curated and differentiated based on the type of intelligence that a student had, the student showed more interest, self-efficacy, and motivation to continue the lesson (Macdonald, 2018).

The purpose of Du and Chemi's (2017) mixed-methods study was to examine how art can be interdisciplinary and contribute to the core curriculum. Du and Chemi's (2017) research methods included the documentation of teacher and student experiences while creating artwork that incorporates science, technology, engineering, and math. The study took place in the United Kingdom during two school terms from 2017 to 2017 (Du & Chemi, 2017). The study's data collection included discussions, observations, teacher reflections, photographs taken by teachers, scrapbooks, workshops, student artwork, audio recordings, and interviews (Du & Chemi, 2017).

Students created projects that dealt with sustainable creative futures, environmental change, and learning opportunities for empowerment (Du & Chemi, 2017). The participants included 12 teachers that were engaged in the installation, documentation, and art-making (Du & Chemi, 2017). The participants also involved 21 elementary school students that created interdisciplinary activities, including sketching for art (Du & Chemi, 2017). For the English part of the curriculum, students did planning, writing, speaking, reading, and drama (Du & Chemi, 2017). For math, students analyzed music for patterns and rhythm by

listening to audio recordings (Du & Chemi, 2017). Students in the study used science and engineering to test and build shelters made from different materials (Du & Chemi, 2017).

Du and Chemi's (2017) findings concluded that as a result of completing the projects, students described their final experiences differently from their initial experiences. Students initially described the artwork as "fearful or concerned." In contrast, at the end of the study, students evoked emotions to describe their experiences with the same artwork as "openness of heart and mind (Du & Chemi, 2017)." Students believed that the opportunity to make artwork made it possible for them to use their imagination, explore, be creative, and create (Du & Chemi, 2017). Du and Chemi's (2017) determined that when students have spaces to develop artwork that those spaces are "in which innovative learning engagements emerge" to allow students to create interdisciplinary artwork (Du & Chemi, 2017).

When incorporating art into other disciplines, students used more in-depth thought when completing assignments since students are using a hands-on project-based approach to learning (V. A. Ellis, 2016). When art was integrated into lessons, students requested more time to complete assignments, signifying the students' increased interest, attendance, and engagement in the assignments (Macdonald, 2018). Teachers also prepared their lessons more in-depth to differentiate lessons for students with multiple intelligences (Macdonald, 2018). As students made multiple physical renditions of art to attain the

desired outcome, students demonstrated an increase in levels of self-efficacy (Macdonald, 2018).

Baladehi and colleagues (2016) studied what was appropriate for students to learn in preschool that would be the foundation for all learning to follow in their lives. Baladehi and colleagues (2016) examined that the education that students receive in primary school was a determinant for the students' growth. Baladehi and colleagues (2016) found that when teachers focused on the individual differences of students, teachers were motivated to explore different ways of engaging students. Baladehi and colleagues (2016) concluded that the crucial point in multiple intelligence allowed students to understand and learn about their strengths and weaknesses. Baladehi (2016) further found that as students learn about their weaknesses, they build upon and improve them without getting discouraged.

Simmons (2001) examined how the arts addressed the intelligences normally unresearched by academics. When art was incorporated into curriculum, Simmons (2001) found that art fostered academic skills for students whose intelligence was outside the traditional parameters that are measured on high-stakes tests. Simmons (2001) identified ways that multiple intelligences can improve the teaching that occurred in art programs while multiple intelligences also reached a wider range of students. Simmons (2001) analyzed multiple intelligences in different content areas over a one-year period. The participants in the study included seventh-grade middle school students (Simmons, 2001). The

findings of the study showed that using a project-based interdisciplinary art education helped engage multiple intelligences throughout the learning process of the lessons in the study (Simmons, 2001). The learning process included developing portfolios that documented the making the art projects from beginning to end (Simmons, 2001). Simmons's (2001) study concluded that the crucial point in multiple intelligence-based instruction was that each type of intelligence must be implemented. Simmons (2001) concluded that interdisciplinary art projects are important to engage each type of multiple intelligence.

Art was eliminated from the curriculum to focus more time in schools to prepare for high-stakes tests (Wexler, 2014). Recently, Garcia and colleagues (2015) determined the impact of a fine arts program on the reading and math state tests in Texas. The participants of Garcia's (2015) study included third through eighth-grade students in a small rural school district that had art for three years, two years, or for one year. The data collection method used in Garcia's (2015) study included quantitative research in determining what difference art had on reading and math scores. As a result of the post-test was given to the participants by Garcia and colleagues (2015), the results concluded that participation in the arts increased reading achievement for all students and improved reading and math achievement for both the Hispanic and economically disadvantaged populations.

Although not explicitly stated, qualities of divergent thinking and self-efficacy are shown to cultivate in students as a result of making artwork in a

study by Garcia (2017). Garcia (2017) employs project-based art learning to address societal and community issues in Los Angeles, California.

Garcia (2017) acquired qualitative evidence and artwork artifacts were collected as data from six students for his research. The evidence that Garcia (2017) collected contradict the stereotypes about how the students are perceived and serve as counter stories (L. Garcia, 2017). The students' artwork in the study is valued for the lived experiences that students endure in their communities and serve as funds of knowledge (L. Garcia, 2017).

Students in the Garcia (2017) study become more conscious and resilient to how the students are perceived by stereotypes as they engage in dialogue about their art projects to depict and address the community challenges. This resilience can be interpreted as self-efficacy. Divergent thinking is also used in the artwork created by the students in the Garcia (2017) study as an alternative strategy to address the community's social issues. Although not explicitly stated in the study, the project-based art assists students in navigating their way successful academic achievement with self-efficacy (L. Garcia, 2017).

Conceptual Framework

Bandura’s Work on Self-Efficacy

Self-efficacy is an individual’s level of confidence and competence in their own ability to complete a task and achieve the desired outcome (Bandura, 1977, 1986, 2012; Collins, 2016). Strong self-efficacy changes negative past experiences of failing to achieve the desired outcome since past academic

failings in English and math classes have influenced an individual's current mindset (Bandura, 1977, 1986, 2012). As opportunities to develop and maintain self-efficacy occur, new and positive experiences are introduced (Bandura, 1977, 1986, 2012). Students in middle school have the potential to continually develop self-efficacy to learn after having negative experiences when failing or struggling academically.

The development of self-efficacy begins in the early stages of infancy. Infants that are age three or younger, experience rapid learning. Rapid learning in infants is a period of time when infants are able to process information, absorb information, and learn with continual curiosity at a faster rate from the infant's experiences. Rapid learning and curiosity in conjunction with self-efficacy allows infants to learn information faster from their positive or negative experiences. Even when infants have negative experiences and fail at simple tasks such as walking, infants learn through self-efficacy (Renner, 2016). Infants continuously demonstrate self-efficacy in order to learn about their environments to make sense of the world (Renner, 2016). Infants learn rapidly by being exposed to new experiences and different environments during their first three years with continual curiosity (Renner, 2016; Trevarthen, 2011). After the age of three, the period of rapid learning, through curiosity and self-efficacy, diminishes (Renner, 2016).

Learning still occurs in infants after the age of three but not as rapidly as in the first three years (Renner, 2016). Self-efficacy, learning, and brain

development in infants depend on much of the same curiosity, exploration, and experimenting that is available in art education (K. Robinson, 2017). Learning and brain development in infants is based on self-efficacy (Renner, 2016; Trevarthen, 2011). Infants learn from failing, continue to be persistent, and experiment through their curiosity (Renner, 2016; Trevarthen, 2011). As infants fail, they make stronger and newer connections in their brain that allow the infant's brain to be more efficient in knowing how to complete a task with competence (Renner, 2016; Trevarthen, 2011).

After the age of three, the brain's plasticity continues to change but not as rapidly as in infancy unless otherwise stimulated while self-efficacy begins to also diminish (Eagleman, 2019; Hass-Cohen et al., 2008; Renner, 2016; K. Robinson, 2017; Trevarthen, 2011). Self-efficacy in children begins to decrease over time as children begin to have negative experiences when they are unable to obtain desired goals (Bandura, 2012). As students begin to be challenged academically through curriculum and high-stakes testing, students with lower levels of self-efficacy are more likely to not be persistent academically when they have a negative experience with failing academically (Bandura, 2012).

As children grow out of infancy, children need to receive different teaching strategies from instructors in order to continually develop self-efficacy, continue their interests, and to be prepared for further education and career paths (Gardner, 1999; K. Robinson, 2017; Smyth, 2008). Art plays a role in cultivating self-efficacy and divergent thinking through art education with creative

learning principles (Hass-Cohen et al., 2008). After the age of three there are few opportunities for students to stimulate their brain's plasticity (Hass-Cohen et al., 2008). Art has shown to stimulate the brain's plasticity on multiple levels and is capable of stimulating student's brains past the age of three. (Hass-Cohen et al., 2008). Art is beneficial for not just expressive or aesthetic reasons but also for cognitive development (Baker, 2013; Hass-Cohen et al., 2008). Art is capable of stimulating past experiences and reinforcing existing language and memory (Hass-Cohen et al., 2008). Making art stimulates senses supporting the brain's reserve (Hass-Cohen et al., 2008). Andreasen (2005) studied processes and experiences of artists who are considered geniuses, including Wolfgang Amadeus Mozart and Samuel Taylor Coleridge. Andreasen (2005) also studied artists of the Golden Age, Renaissance Florence, and 19th century Paris. Andreasen (2005) looked at the artists of these different time periods and the opportunities that occurred to allow creativity through project-based learning. By the end of Andreasen's (2005) study, they asked how many creative minds have been lost because the individuals were never nurtured or given the opportunity to grow and flourish. Based on the research of Hass-Cohen (2008), art had the potential to give individual the opportunity for students to continually develop self-efficacy and even allow the brain to develop new neurons.

Cultivating Self-Efficacy Through the Arts

In a study conducted at an elementary school located in a low-income community of Burlington, Vermont, art education was incorporated into core class

content such as math, science, and English (Eagleman, 2019). In the study, students were able to develop self-efficacy when creating, exploring, and experimenting through project-based learning (Eagleman, 2019). Prior to implementing art in core content, the school was at risk of being shut down due to low student academic achievement (Eagleman, 2019). Before art was integrated into the curriculum, only 17% of the third-grade students were proficient in the math portion of the standardized test (Eagleman, 2019). Five years after incorporating arts into the curriculum, 66% of the students achieved math proficiency on the standardized test (Eagleman, 2019). This study infers the students were able to develop self-efficacy when they were engaged in an art-based curriculum to complete the same core content assessments compared to when art education was not incorporated (Eagleman, 2019).

Moorefield-Lang (2010) studied whether art education has a relationship to eighth-grade rural middle school students' motivation and self-efficacy. The participants of the study included ninety-two middle school students that were in the eighth-grade (Moorefield-Lang, 2010). Moorefield-Lang (2010) used student questionnaires, focus-group interviews, and follow-up interviews that conducted a content analysis on the personal narratives, comments, and opinions directly from the students. Moorefield-Lang (2010) concluded that there were both positive and negative relationships between the students' arts education classes and the students' motivation and self-efficacy. In this study, students believed that being enrolled in art classes helped develop their self-efficacy and gave

them the drive to do better academically in all of their classes (Moorefield-Lang, 2010). When students were enrolled in art classes, the students were more engaged and interested in the arts because they were able to learn content from other disciplines through the arts (Moorefield-Lang, 2010).

In art education with creative learning principles, students explore experimentation and divergent thinking through project-based learning. Research by Puente-Diaz and Cavazos-Arroyo (2017) examined the relationship between student creative self-efficacy with schoolwork and divergent thinking. The study found a positive correlation with intrinsic and extrinsic motivation and creative self-efficacy. However, the study did not find a relationship between creative self-efficacy and divergent thinking when students completed schoolwork. Divergent thinking is cultivated and stimulated when students are enrolled in art classes (Puente-Díaz & Cavazos-Arroyo, 2017). Puente-Diaz and Cavazos-Arroyo (2017) used questionnaires with students in a classroom setting during class time.

The questionnaire was given to the same group of students at the beginning of the study and the end of the study (Puente-Díaz & Cavazos-Arroyo, 2017). The questionnaire asked students to complete the following prompt as part of the divergent thinking task: “Name all of the things you can think of that has wheels (Puente-Diaz and Cavazos-Arroyo, 2017).” Students who were bored and could still name more objects that had wheels at the end of the study than they were able to name at the beginning of the study scored higher (Puente-Díaz

& Cavazos-Arroyo, 2017). The study results showed that students with higher creative self-efficacy maintained their level of confidence and performed higher on the divergent thinking task than the students with lower self-efficacy even though both groups ranked on the same levels of being bored (Puente-Díaz & Cavazos-Arroyo, 2017).

Although not explicitly mentioned in the Puente-Diaz and Cavazos-Arroyo (2017) study, students need opportunities to cultivate creative self-efficacy and divergent thinking. Students need the opportunity to foster divergent thinking and creative self-efficacy when art education integrates creative learning principles that are part of the Ellis (2016) study. Students often do not have many opportunities to promote divergent thinking in core studies (Puente-Díaz & Cavazos-Arroyo, 2017) Still, students can benefit from incorporating the arts into other classes to demonstrate divergent thinking solutions to problems (Puente-Díaz & Cavazos-Arroyo, 2017).

Puente-Diaz and Cavazos-Arroyo's (2017) research explores the problem statement if students' creative self-efficacy effects their education and divergent thinking when students are bored. Creative self-efficacy is an individual's belief to produce creative outcomes (Puente-Díaz & Cavazos-Arroyo, 2017). Divergent thinking refers to a student's ability to generate multiple creative ideas that are distinct from those of other students while also justifying their choices and decision (Puente-Díaz & Cavazos-Arroyo, 2017). The research question that Puente-Diaz and Cavazos-Arroyo (2017) uses includes, what effect does intrinsic

and extrinsic regulation for schoolwork and boredom have on creative self-efficacy and divergent thinking? The purpose of the study is to examine if creative self-efficacy has positive effects on student divergent thinking when students are bored with classwork (Puente-Díaz & Cavazos-Arroyo, 2017). The study's research design uses case studies and questionnaires to examine students' self-efficacy in schoolwork when students are asked to be creative in different content areas, including art (Puente-Díaz & Cavazos-Arroyo, 2017). Creativity is usually associated with artwork and music, but creativity can also be applied to finding solutions in other content areas through divergent thinking (Puente-Díaz & Cavazos-Arroyo, 2017). Puente-Diaz and Cavazos-Arroyo (2017) explain divergent thinking as "relevant for creativity since the ability to produce several (fluency) novel ideas (originality) is seen as an indicator of creative potential." The research methodology that the study uses is 156 female and 139 male elementary students in Mexico that range from ages ten to fourteen (Puente-Díaz & Cavazos-Arroyo, 2017). The study's significant finding is that there is a positive correlation between intrinsic and extrinsic regulation and creative self-efficacy (Puente-Díaz & Cavazos-Arroyo, 2017). In this study, students' confidence and beliefs about their creative abilities were significantly effected by intrinsic and extrinsic regulation but that intrinsic regulation impacted creative self-efficacy more (Puente-Díaz & Cavazos-Arroyo, 2017).

The study's limitations are that the research was conducted with students living in Mexico and not students from California (Puente-Díaz & Cavazos-

Arroyo, 2017). An additional limitation of the study is that the students participated in the study for twelve-to-fifteen-minute intervals (Puente-Díaz & Cavazos-Arroyo, 2017). The student also did not examine or record how creative self-efficacy is developed as intrinsic and extrinsic motivation is introduced (Puente-Díaz & Cavazos-Arroyo, 2017). Lastly, the study did not determine if intrinsic regulation and creative self-efficacy influence each other over time (Puente-Díaz & Cavazos-Arroyo, 2017). Recommendations for future research would be to conduct a case study on participants that vary in age with different socioeconomic backgrounds and more extended periods of time to study (Puente-Díaz & Cavazos-Arroyo, 2017). Another recommendation would be to emphasize intrinsic regulation rather than extrinsic regulation to develop student self-efficacy (Puente-Díaz & Cavazos-Arroyo, 2017).

Due to the near elimination of art in student curriculum and the test-driven common core curriculum in the United States, self-efficacy is typically nurtured during the first three years of infant development (Renner, 2016). Art cultivates and nurtures self-efficacy through the production of art beyond age three by using creative learning processes (V. A. Ellis, 2016). Art also improves student achievement in other disciplines by creating higher-order learning processes by utilizing the DOK, multiple intelligences to strengthen the self-efficacy, and divergent thinking for student achievement (Gardner, 1999; Hamblen, 1984; Tamilselvi & Geetha, 2015). In order for the United States to be progressive, innovative, and competitive with other emerging or developed economies,

students should have art as part of their PK-12 curriculum to produce higher levels of efficacy and divergent thinking (Du & Chemi, 2017; Macdonald, 2018).

Theoretical Framework

Critical Pedagogy

For students to develop the critical consciousness, students need to be able to think critically to transform their world through critical pedagogy (Freire, 2000). Critical pedagogy is a framework that occurs when students become critically aware of the social issues that are occurring in their community (Freire, 2000). By introducing critical pedagogy, students can potentially become aware of the disparities that is occurring in their communities (Freire, 2000). Students in low-income communities should be introduced to critical pedagogy to potentially develop self-efficacy and divergent thinking. Students can use critical pedagogy as a tool to overcome social issues in terms of socioeconomic, academic, and or political barriers in social circumstances of hegemonic-hidden curriculum designed by corporations, politicians, and policymakers.

Freire (2000), presented that in order to promote thought-provoking and higher levels of learning, teaching is supposed to include dialogue. Dialogue is reciprocal instruction from both students and teachers (Freire, 2000). Freire (2000) advocated that teaching and learning occurred interchangeably between teachers and students. Learning occurs when there is thought-provoking instruction that will cause learners to reflect, make changes, and continue to practice (Freire, 2000). Teachers' experiences, insight, new knowledge, and

contributions engage students in the transformation of knowledge (Freire, 2000).

The banking model is the idea that the minds of students are similar to banks because teachers make deposits of information that they want the students to willingly accept, memorize, and repeat (Freire, 2000). The banking model of education served the oppressor and functioned on the assumption that students in low-income communities did not have an existing quality education (Freire, 2000). The banking model presumed that students in low-income communities lacked sufficient cultural and cognitive instruction that is supposed to be provided by schools (Freire, 2000). The banking model of education paved the way for school tracking which attempted to place students in remedial-intervention courses that were supposed to get students at the cognitive level that was grade level appropriate (Freire, 2000). As students receive the same predetermined knowledge from the same courses, students become victims of the banking model (Freire, 2000). Freire (2000) concluded that in order to reverse the banking model, higher levels of learning and creative instruction was necessary.

Freire (2000) recognized how the Brazilian governments have identified education as a key component in escaping poverty. In reality, the education system has instead played a key role in the social reproduction of power and status (Freire, 2000). Social reproduction is the process in which the social structures of society repeat from generation to generation (Bourdieu, 1984; Marx, 1990).-To bring about social change, Freire (2000), empowered students to

critique real-life experiences and social issues to raise the critical consciousness of the students. Freire (2000) discusses how students in schools are not taught to use dialogue. Instead, teachers are those in schools that are reciting hegemonic facts and ideas while students just listen and memorize (Freire, 2000). This idea of teachers as reciters and students as listeners is what occurs on a daily basis to prepare for standardized tests. In class, there is no time for dialogue to occur between students or teachers because of the urgency to meet the objectives of state standards which are believed to prepare students for standardized tests. In class, much of the information that students are receiving is not relevant to the lives of students and students are instead expected to engage in passive learning where students do not challenge or object to what they are being taught (Freire, 2000). Since students are not able to engage in dialogue, students are likely to receive fewer opportunities to continually develop divergent thinking. If students are not encouraged to think divergently and students expressive an alternative solution or opinion it is also likely that students will not be able to continually develop their self-efficacy. Similar to critical pedagogy, critical race theory uses knowledge that is interdisciplinary, experiential, and critical to value the knowledge that students have based on their lived experiences, race, gender, and class.

Critical Race Theory

Critical Race Theory Tenets.

Critical race theory is a framework central to identify and centralize issues of race and racism as they intersect with other

forms of marginalization in U.S. society (Solórzano & Yosso, 2002). Critical race theory offers a transformative solution to the subordination of students based on race, gender, and class (Solórzano & Yosso, 2002). There are five tenets that form the research methods, pedagogy, and perspectives of critical race theory (Solórzano & Yosso, 2002).

The first tenet, subordination is based on centrality and intersectionality of race and racism. The first tenet highlights how some races are oppressed and how other races have an inherent dominance, some races are viewed as more important, have the right to exploit people of color, and how some races are viewed as superior to others which leads to racism (Solórzano & Yosso, 2002). The second tenet is the challenge to dominant ideology when educational systems objectify truth, propose color-blindness, encourage meritocracy, promote race neutrality, and emphasize equal opportunity (Solórzano & Yosso, 2002). The third tenet, the commitment to social justice, empowers underrepresented groups with the elimination of racism, sexism, and poverty (Solórzano & Yosso, 2002). The fourth tenet, the centrality of experiential knowledge, views the lived experiences of students of color as strengths that allows students to have background knowledge of sociology, history, humanities, and how the law applies to them (Solórzano & Yosso, 2002). The fifth tenet, the interdisciplinary perspective, challenges history that is traditionally taught in education through one perspective (Solórzano & Yosso, 2002). The interdisciplinary perspective analyzes race and racism in the historical and

contemporary context through multiple perspectives (Solórzano & Yosso, 2002).

Race and racism in the United States is based on Eurocentric assumptions that believed that superiority and dominance were objectively assigned to specific races (Solórzano & Yosso, 2002). Race and racism creates the belief that some races are more superior, have an inherent dominance, and the right to exploit people of color (Solórzano & Yosso, 2002). Racism can also be defined as the exploitation of a group based on culture, ethnicity, mannerisms, and color (Solórzano & Yosso, 2002). The groups of races that have been historically exploited and oppressed are African-Americans, Latinx, Asians, Pacific Americans, and Native Americans (Solórzano & Yosso, 2002).

Critical Race Theory in Law. Critical race theory recognizes how racism is inherently engrained in the laws and governing system of the United States (Seiler, 2003). Critical race theory examines how power structures predominately benefit from and are also based on white privilege and white supremacy. Under the equal protection clause of the 14th amendment in 1868, equal education was granted. Even after the adoption of the equal protections clause, schools were still segregated (Townley & Schmieder, 2010). The articles of the constitution were written during a time when people of color were not considered as equal to whites which led to systematic racism (Seiler, 2003). Systematic racism continues to exist in the United States even as amendments to the constitution have been written and rewritten (Seiler, 2003). Laws were written for the

economic and social benefits of whites that viewed African American as property (Seiler, 2003).

Critical Race Theory in Education. Critical race theory in education challenges the assumption that educational institutions create equal opportunities (Solórzano & Yosso, 2002). Critical race theory in education focuses on how the experiences of students of color is different due to the students' race and the underlying issue of racism (Solórzano & Yosso, 2002). Some schools got left behind during desegregation since there was not a consensus or uniform state constitution, local ordinance, district policy or practice, or court interpretation across the United States (Townley & Schmieder, 2010).

In *Brown v. Board of Education of Topeka (1954)*, Chief Justice Warren declared that separate schools based on race are inherently unequal (Townley & Schmieder, 2010). In *Brown v. Board of Education II (1955)*, the court ruled that schools must be desegregated "with all deliberate speed" (Townley & Schmieder, 2010). Although the court ruled for schools to be desegregated there was little guidance to set timelines for this to occur which allowed states to vary their compliance (Townley & Schmieder, 2010). In 1968, states moved from state neutrality to affirmative state action (Townley & Schmieder, 2010).

Critical Race Theory in Art Education. Critical race theory in art challenges how art education can be used to confront subordination of marginalized races, challenges dominant educational systems, establishes a commitment to social justice to empower marginalized groups, recognizes that knowledge is based on

the lived experiences of students, and embraces multiple perspectives (Solórzano & Bernal, 2001; Solórzano & Yosso, 2002). A majority of the desegregation of schools occurred in the 1970s. However, many of the low socioeconomic communities across the United States continue to experience inequities in education, even though education is controlled under the power of state law (Townley & Schmieder, 2010). Many of the courts agreed that the equal protection clause only guaranteed access to education and not equal access to integrated schools, facilities, curriculum, extracurricular opportunities, trained professionals, and the duration of school day or year (Townley & Schmieder, 2010). As a result, not all schools have equitable opportunities for students to experience art as not all elementary or middle schools have art classes (Kraehe, 2017). Most students do not experience art as part of their curriculum until high school when are is part of a requirement to graduate (Kraehe, 2017). Instead, students of color are often the students that do not have art education available to them due to the districts' prioritization of preparing for high-stakes testing (Newman & Chin, 2003).

Rethinking Art Education to Enact Critical Consciousness

Rethinking art education should be considered in order to give middle school students more opportunities in the educational system for high-levels of learning, divergent thinking, and self-efficacy to succeed academically despite the academic challenges put in place by the structures of education (Chapman, 2015; Marshall, 2014). As a result of using critical race theory and critical

pedagogy as the framework of my study, students will become critically conscious of the education they receive when incorporating art education with creative learning principles.

When using critical race theory as part of the framework, students will integrate lived experiences, cultural competence, and interdisciplinary knowledge as part of their art education that incorporates creative learning principles. However, Ellis (2016) does not explicitly address critical race theory in her study. Ellis (2016) does make connections of how learning through creative learning principles incorporates students' knowledge gained from personal and academic lives to develop solutions to academic challenges through Rhizomatic Learning. Rhizomatic Learning connects concepts acquired inside or outside the classroom and applies that knowledge to a problem from any subject matter to create a creative solution (Ellis, 2016).

In art education that uses creative learning principles that encourages students to ask questions, thought-provoking dialogue can potentially occur when students are critically conscious. Freire (2002) believed that dialogue must be reciprocal between students and teachers for higher levels of cognitive learning to occur. The dialogue that Freire (2002) mentions could potentially occur in an art education class that uses creative learning principles. The dialogue that Freire (2002) mentions between teachers and students for learning to occur also exists in art education with creative learning principles as teachers work with students to evaluate and create their work. Even though Ellis (2017) does not mention

critical consciousness, students engage in the transformation of knowledge that occurs in critical consciousness that Freire (2002) refers to as students plan, design, create, reflect, and continue to improve their work.

Students will be increasingly aware of the educational inequities between traditional art education classes and art education that includes creative learning principles as middle school students become more critically conscious. Students will use critical race theory to challenge the assumption that educational institutions create equitable opportunities (Solorzano and Yosso, 2002).

Critical race theory and critical pedagogy are a part of the framework of this study to make students conscious of the education they receive to be empowered to enact change when students receive art education with creative learning principles. Critical consciousness is essential for students to develop to think critically of how art education with creative learning principles has the potential to empower students to cultivate creative self-efficacy and divergent thinking.

Students can become more critically conscious of their communities and educational institutions' inequities as they are introduced to critical pedagogy and critical race theory. Students will have the potential to overcome academic challenges if students are critically conscious of the existing inequities and receive art education with creative learning principles that cultivate self-efficacy and divergent thinking.

Divergent thinking and self-efficacy developed through the arts with

creative learning principles could potentially prepare students to overcome the academic challenges in education and high-stakes testing. Several studies have showed how art can impact long-term student academic achievement in multiple disciplines (Baker, 2013; Cevik, 2018; Guyotte et al., 2015; Houtte et al., 2012; Perignat & Katz-Buonincontro, 2018). Baker (2013) gave examples of students being able to use multiple intelligences which led to an improvement in cognitive development, self-efficacy, and academic achievement through the integration of an art program. Moorefield-Lang (2010) explained how students in middle school were able to improve their self-efficacy, motivation to come to school, student collaboration, and academic performance in art and other disciplines as well.

Many of the reasons why some students are less engaged in schools can be traced back to the lack of self-efficacy caused as a result of the current hegemonic-hidden curriculum that is designed to meet the needs of corporations (McCaslin, 2006; Schniedewind & Tanis, 2017). Instead of giving students opportunities to have diverse learning opportunities, students in middle schools have limited hegemonic learning opportunities (Kraehe, 2017). This limited hegemonic learning is based on the prewritten core standards that are believed to potentially prepare students for high-stakes testing (Kraehe, 2017). Students are expected to learn predetermined and preselected information in class in order to prepare students for a standardized test that is prewritten (Kraehe, 2017). Students is affluent communities have the resources available to them in order to successfully prepare for standardized tests (Kraehe, 2017). As a result

of receiving high scores on the standardized tests, students in affluent communities are able to receive funding for programs such as art, engineering, and technology giving these students an inequitable academic advantage over students from low socioeconomic communities (Kraehe, 2017).

Inequitable Art Education as a Social Issue

Schools in more affluent communities are starting to integrate art into their curriculum because of the benefits that art proposes for student academic achievement, an increase in self-efficacy, and divergent thinking (Campos-Holland et al., 2016; Newman & Chin, 2003; Standardized Tests, 2019). The lack of an art education resources in low-income communities has become a social issue since these communities do not have the same access to art as a resource (Campos-Holland et al., 2016; Newman & Chin, 2003; Standardized Tests, 2019). Access to an art education is denied to the low-income communities because the communities were not able to perform high on the high-stakes test therefore, funding to these schools is denied (Campos-Holland et al., 2016; Newman & Chin, 2003; Standardized Tests, 2019). Scores on high-stakes testing is one of the key determinants of how schools are funded. Schools in lower-income communities receive fewer resources to prepare for high-stakes testing which causes these communities to receive lower scores. Instead of allocating funding and resources to have programs such as art available in low-income communities, politicians are often lobbied and manipulated to distribute funding for private education, private corporations, and military spending (De Lissovoy,

2014). Corporate interests are seeking to capitalize not only through private management of schools, but also directly on the processes of teaching and learning (De Lissovoy, 2014).

Teaching Critical Pedagogy Through the Arts

As a result of NCLB, equity and social issues arise with students' access to an art education (Kraehe, 2017). Students in more affluent communities have art classes built into their curriculum with a budget for supplies (Kraehe, 2017). In addition to this, students are more enthusiastic, have a background knowledge in art, and have an existing experience creating art through project-based learning (Kraehe, 2017). If art resources are distributed in lower socioeconomic communities, the amount of resources are not evenly distributed (Kraehe, 2017). For example, schools in lower socioeconomic communities have a smaller budget to spend on art materials and students do not have the same access to equipment, equal access to computers, or an art program at all (Kraehe, 2017).

There has recently been more research that looks at how the lack of an art education has impacted the development of students when students that do not have access to the same opportunities of more affluent communities, and do not have NCLB or common core standards to meet (Smyth, 2008). The lack of an art education needs to be viewed as a social issue. Students in low-income communities do not have equitable access to art resources which inhibits critical conscious to cultivate divergent thinking and self-efficacy for more opportunities in higher education and future careers.

Some students in affluent communities are able to flourish and attain academic achievements. Although art education is available in low-socioeconomic communities, some students are receiving art education for the first time in high school to fulfill a graduation requirement. Markovich and Rapoport (2013) studied if using critical pedagogy in art would help to empower students from a lower socioeconomic class background to understand their identity. Markovich and Rapoport (2013) studied eight high school immigrant participants that came from an underprivileged socio-class background. Markovich and Rapoport's (2013) research occurred over a year of school, and included participant observations, as well as interviews with eight participants. The study showed that the participants initially rejected the implementation of critical pedagogy and viewed art and painting with oil on a canvas as being characteristics of "high culture" (Markovich & Rapoport, 2013). Markovich and Rapoport (2013) concluded that ultimately critical pedagogy in art education is more effective in providing learners with an understanding of art concepts, developing their intrapersonal thought processes, and increasing knowledge of their community and its needs.

The issue that occurred in the Markovich and Rapoport (2013) study was that some of the high school students were not interested in developing solutions to issues in their community because of the connotation that some of the students believed art to have. Implementing art education in middle schools becomes increasing important since students in the Markovich and Rapoport

(2013) study already began to have a negative perspective of what art meant to them. Students in California are only required to take art for one year as part of a high-school requirement. It is possible that the students in the study had a negative connotation towards art because students were receiving art later in their education. These students in the study were not exposed to art education earlier in their lives and also may have not received examples of how art can positively impact the critical consciousness of their communities. If students are only required to take art later in their education in high school, students will likely be more resistant to incorporating art. Also, if students are receiving art for the first time in high school, much of the class time is spent on learning the fundamentals of art and students might have trouble making connections of how art can be used for critical pedagogy. Art education needs to be implemented at a lower grade level than high school so that students are already introduced to the fundamentals of art and students are aware of the positive impact art can have in their communities when art education is combined with critical pedagogy. By incorporating art education and critical pedagogy in middle schools, students will be more equipped, and more class time can be spent addressing issues of adversity while continually cultivating divergent thinking and self-efficacy.

Obstacles to Cultivating Self-Efficacy Through the Arts

Shapiro and Hassinger (2008) found how the perceptions that students had of themselves was important to the students' success. Student self-esteem was diminished when students did not perform well in math and reading

assessments (Shapiro & Hassinger, 2008). Shapiro and Hassinger (2008) found that it was more beneficial to student success if students received a more well-rounded educational experience. Since art promotes divergent thinking, art goes against the epistemological knowledge and ideology reproduction often found in education, whereas in other disciplines, an entire class is instructed to use the same few solutions for the same problem (Apple, 1978; Elmore, 1996; Freire, 2000). Students in common core disciplines rarely get opportunities to explore divergent thinking (Lee & Wu, 2017). Students enrolled in art classes have demonstrated an increase in levels of self-efficacy in art (Teel, 2001). As a requirement of art, students make multiple renditions to attain a desired outcome (Teel, 2001). In order to achieve the desired outcome, students must take risks, experiment, and be persistent in order to innovate (K. Robinson, 2017). In middle schools, art-based learning is being recognized for its importance in divergent thinking and self-efficacy (Du & Chemi, 2017; Macdonald, 2018).

High-stakes testing and test-driven curriculum have limited the opportunities available to students to have art as part of their curriculum (Smyth, 2008). As a result of not having art, students do not have the same opportunities for brain development. Years pass from when an infant is in the period of rapid learning to the time a student has the opportunity to explore creatively and continually develop self-efficacy and divergent thinking through art education (Trevarthen, 2011). Almost immediately as a child enters school, educators “teach to the test” (Schniedewind & Tanis, 2017). Instead of cultivating or

nurturing a student's drive of self-efficacy to experiment, be creative, or explore, a student's divergent thinking is inhibited, and brain development is stagnated (Schniedewind & Tanis, 2017).

That opportunity to continue to learn through self-efficacy by experimenting, failing, and revising may never come to fruition since middle schools are not required to have an art class available due to school funding (Smyth, 2008). In high school, art is an optional career pathway for students to establish with their counselors which would allow students to take art for more than one year as an elective (Granello, 1999; Oakes & Saunders, 2008; Zalaquett & Chatters, 2012). If students do not express their interest in art, students will not be enrolled in art classes by their counselors for more than one year to fulfill the minimum graduation requirement (*California Department of Education*, 2020; Granello, 1999; Oakes & Saunders, 2008; Zalaquett & Chatters, 2012). If students do not receive grades that are high enough for general core classes, then students are automatically enrolled in intermediate math and English classes (Campos-Holland et al., 2016; Grodsky et al., 2008; Newman & Chin, 2003; Reardon et al., 2019; Thompson, 2015).

Students are placed in intermediate math and English classes to scaffold students' from their current level of content knowledge to the students' expected level of content knowledge (Campos-Holland et al., 2016; Grodsky et al., 2008; Newman & Chin, 2003; Reardon et al., 2019; Thompson, 2015). Extra effort is made to get students' knowledge back to the expected level of content

knowledge, so that students can be placed in standard core math and English classes, for students to perform better on high-stakes tests (Reardon et al., 2019; Thompson, 2015). If students perform low in core classes or on high-stakes tests, then these students will not receive the same opportunities to develop their self-efficacy and creative learning principles through art.

Equitable Opportunities to Measure Success and Achievement

As students move through the school system, many students begin to lose motivation (Andreasen, 2005). The loss of motivation is partly due to how success is measured and the limited opportunities that students have to demonstrate their opportunities (Andreasen, 2005). The most common opportunities that students have are reduced to reading, writing, math, and science (Andreasen, 2005). Imagination and creativity are not used to measure success (Teel, 2001). Students need these alternative opportunities to measure success due to the multiple intelligences that students possess (Teel, 2001). Art can be used to appeal to all of Gardner's Theory of Multiple Intelligences (Gardner, 1999). Gardner (1999) proposes that individual thinking can become more complex and richer by posing different levels of sophisticated questions when discussing works of art. Individual thinking becomes more complex and richer when individuals hear or observe others at a higher stage of thinking (Gardner, 1999). By implementing art education with creative learning principles , each of Gardner's multiple intelligences can be appealed to while also using art as an alternative form to measure success and performance (Gardner, 1999).

In order for students to continue to stay motivated, students need opportunities to improve when failing or not comprehending a subject (Teel, 2001). Students need to receive feedback and additional opportunities to improve upon their work (Teel, 2001). Students should have multiple opportunities to improve upon their work instead of high-stakes testing or in-class assignments that implement a “pass” or “fail” structure (Lipman, 2004; Teel, 2001). These multiple opportunities allow for students to maintain their level of self-efficacy and motivation necessary to demonstrate progress for success (Puente-Díaz & Cavazos-Arroyo, 2017; Robinson, 2017; Teel, 2001).

Summary

Art has a role in cultivating student self-efficacy and divergent thinking using art education with creative learning principles. As infants, children have a natural high-level of self-efficacy as they learn, explore, and experiment in their environments (Renner, 2016). As students enter school, students need opportunities to continue to develop self-efficacy and divergent thinking. In early grade levels, students are being taught to learn content that will be similar to what students are expected to know for high-stakes testing (Campos-Holland et al., 2016; Reardon et al., 2019; Standardized Tests, 2019). Students are not being given opportunities to develop self-efficacy when students struggle academically, experiment, and progress towards learning and be innovative (Renner, 2016; H. Robinson, 2013; Trevarthen, 2011). Due to high-stakes

testing, students are being “taught to the test” as students learn how to fail and get behind academically (Campos-Holland et al., 2016; Reardon et al., 2019).

Educators, policy makers, and corporations have put an emphasis on high-stakes testing to determine if students understand content at the students’ grade level and if the students are prepared for further education and careers (Macdonald, 2018; Newman & Chin, 2003; Reardon et al., 2019). Students in low-income communities do not have the same resources available to them as affluent communities to prepare for high-stakes testing (Schniedewind & Tanis, 2017). As high-stakes testing begins at an early childhood, students that are struggling in core content are identified and are enrolled in intermediate math and English classes in addition to the students’ regular core content classes (Reardon et al., 2019; Thompson, 2015). Intermediate math and English classes are considered elective classes and take the place of art classes for students that attend schools that have art classes available (Reardon et al., 2019; Thompson, 2015). Students that never had the opportunity to develop self-efficacy struggle to persist in core content and intermediate classes (Reardon et al., 2019; Thompson, 2015). When students have the opportunity to be enrolled in art education class, the art curriculum has the possibility to scaffold students to understand social issues as well as interdisciplinary core content (L. Garcia, 2017).

Students that are enrolled in art classes, have the opportunity to develop self-efficacy as part of art education with creative learning principles. Students

enrolled in art education with creative learning principles learn to make multiple attempts to create an end product that the students are intentionally trying to create which allows students to develop and maintain the students' self-efficacy through project-based learning (Bandura, 1977; Renner, 2016; Tamilselvi & Geetha, 2015). Art education that includes creative learning principles is interdisciplinary and allows students to combine concepts from different disciplines (Burnaford, 2001; Cevik, 2018; Hass-Cohen et al., 2008; Perignat & Katz-Buonincontro, 2018; Whitmire K & Beck J, 2010). As science, technology, engineering, and math are researched in current and past cultures, art has always played a key role in the development, design, and experimentation that leads to innovation (Burnaford, 2001; Burns Gilchrist, 2016; Qian & Plucker, 2018; Renaissance, 2015; Whitmire K & Beck J, 2010). Students that are enrolled in core content classes learn about subject matter that only has one or few solutions (Apple, 1978). Whereas in an art class that includes higher levels of thinking, students learn to find creative and innovative multiple solutions to singular problems while combining concepts from different disciplines (Dewey, 1959; Hardiman, 2017; K. Robinson, 2017).

If educators, policymakers, and corporations in the U.S. are genuinely concerned with keeping the U.S. economically globally competitive then implementing art as part of the core curriculum should be part of that initiative (Lipman, 2004; Newman & Chin, 2003; Wexler, 2014). If creativity is the basis of innovation, students need to be well-rounded and think creatively to make

connections between different content to lead to innovation through project-based learning (Apple, 1978; Issacson, 2017). If all students are all learning the same content in the same way, then creativity nor innovation is likely to occur (Apple, 1978; Issacson, 2017). Educators, policymakers, and corporations need to view art as beneficial not just to help students succeed on high-stakes tests or to help students succeed in other disciplines. Instead art needs to be examined as beneficial as its own core content to help students develop self-efficacy through experimentation. Art needs to be examined as how it has historically been used by other cultures and civilizations to lead to innovation (Burnaford, 2001; Burns Gilchrist, 2016; Cevik, 2018; Meggs, 2012; Qian & Plucker, 2018; Renaissance, 2015; Schaff, 1891).

Art needs to be valued beyond the affective and aesthetic properties. Art should be valued for the higher levels of learning that occurs when art education incorporates creative learning principles. Art education with creative learning principles are also beneficial to differentiate for multiple intelligences of visual spatial, linguistic-verbal, interpersonal, intrapersonal, logical-mathematical, musical, bodily-kinesthetic, and naturalistic (Baker, 2013; Tamilselvi & Geetha, 2015). The multiple forms of media including dance, media arts, music, theatre, and visual arts have the potential to benefit students that need differentiation for multiple intelligences (Gardner, 1999; Tamilselvi & Geetha, 2015). If the educators, policy makers, and corporations that are responsible for developing curriculum are genuinely concerned with innovation then these groups need to

value art as much as the innovative cultures that view art as important as science, technology, engineering, and math (*2018 Social Progress Index*, n.d.; Pate, 2016).

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

The purpose of this qualitative study was to understand the experiences of an art teacher implementing art education with creative learning principles to cultivate students' creative self-efficacy and divergent thinking at one middle school in the Inland Empire in Southern California. The importance of this study was to identify if educators can use art education with creative learning principles as a solution for students to cultivate self-efficacy and divergent thinking. Cultivating students' self-efficacy and divergent thinking has the potential to make students in low socioeconomic communities more critically conscious to lead to more opportunities to learn without the consequences of high-stakes testing through Rhizomatic Learning. As students become more critically conscious, students will become more aware of the educational inequities and overcome academic challenges by receiving art education with creative learning principles.

Chapter three will discuss the methodology used in this qualitative study. The qualitative study examines the experience of an art teacher's observations of students who have had art education with creative learning principles and students who have not had art as part of their general education. The study design is then discussed, followed by a description of the setting and autoethnography. Chapter three will also present the data collection process for

the study. The data collected for the qualitative part of the design will examine personal experiences of working in art education that uses creative learning principles. The qualitative study design uses experiences during observations, field notes, and memos to collect data as evidence of self-efficacy and divergent thinking both before and after the students received art education that includes creative learning principles.

Research Questions

The research questions guiding this study will be: What teaching experiences and observations do I, as an art teacher, have in cultivating students' self-efficacy when incorporating art education with creative learning principles? What teaching experiences and observations do I, as an art teacher, have in cultivating students' divergent thinking when incorporating art education with creative learning principles?

Research Design

The methodology implemented was an autoethnography comprised of using personal experiences and observations of the researcher to formulate a perspective from an educator that incorporates creative learning principles with art education (C. Ellis, 2004). Ellis (2004) described autoethnography as an overlap between "art and science; it is part auto or self and part etho or culture." Although, autoethnographies do receive criticism and are perceived as self-indulgent and narcissistic (Coffey, 1999). Qualitative data was collected of

different occurrences of students' self-efficacy and divergent thinking. Qualitative data was collected by the researcher at the beginning of the study as education with creative learning principles was introduced. The researcher then collected qualitative data after introducing art education with creative learning principles. Art education that includes creative learning principles incorporates high levels of Bloom's Taxonomy and Webb's Depth of Knowledge. High levels of learning required that students design, create, and critique new work of their own and preexisting historical artwork.

The qualitative research examined the experiences of the researcher with students that had art education that included creative learning principles and how the art course effected students' self-efficacy and divergent thinking. The qualitative data gathered from the researcher described interactions with students that have had art as part of their middle school general education and interactions with students that did not have art as part of their middle school general education. The researcher collected qualitative data by comparing field notes of how students described the impact of art education on creative of self-efficacy and divergent thinking.

Several forms of the methodology were used by the researcher to strengthen and support the study. Pre and post observations determined what factors have cultivated the experiences that students had with self-efficacy and divergent thinking. The personal experiences allowed thick descriptions to be developed and gained a perspective on how the students perceive their self-

efficacy and divergent thinking. The personal experiences of the autoethnography enabled the researcher the opportunity to elaborate through the perspective of the educator. The autoethnography allowed the researcher to code for themes and identify patterns of students' self-efficacy and divergent thinking that, from the students' perspective, might not have been able to contextualize or put into their own words.

Research Setting

The research setting was at a lower socioeconomic public middle school in the Inland Empire, located in Southern California. The research setting is both urban and diverse. According to the California Department of Education (2020), 25% of the families in the research setting live in poverty. Based on the same data, 84% of the students in the district are eligible to receive free or reduced-price school meals (*California Department of Education*, 2020). Over 87% of the students identify as Hispanic/Latino (*California Department of Education*, 2020). A large portion of the students are English Learners, with almost 33% of the population (*California Department of Education*, 2020). Nearly 60% of the students are first-generation students to the United States (*California Department of Education*, 2020). The overall population of the site is approximately 1250 students (*California Department of Education*, 2020). Students in the research setting receive a general education based on the CCSS. The art class available at the school site is optional and available at the request of the administration. The administration decides whether an art class exists at the school site or not.

Out of seven middle schools in the district, only four have an art class.

In the first semester of the 2016-2017 school year, two different art teachers taught the class. Each teacher taught for approximately one-quarter of the first semester. The art class focused mainly on basics, fundamentals, tools and techniques. Students were required to follow along while the teacher was demonstrating the lessons. It was expected of the students to do the same assignments and activities while the teacher was instructing. For example, the teacher would show the students how to draw a flower and the students will follow along with how to draw that same flower. In the second semester of 2016-2017, short-term and long-term substitutes taught the class. During this time, students watched entertainment movies or made crafts. For example, the students would make crafts that use confetti, glitter, or “slime.” Beginning in fall 2017, I started teaching the art class at this site using the curriculum that I developed and that I intend to use as part of this study.

Research Sample

Participant Selection

I served as the art teacher used for this autoethnographic study. I have accumulated years of experience as an art teacher and a graphic design artist. My experience as an art teacher will give a personal account of my interactions with my students as they cultivate or struggle to cultivate self-efficacy and divergent thinking. As a participant, I will describe my personal journey of working with students and different instances of how students perform during art

education with creative learning principles.

The students that I observed will be middle school students enrolled in the art class and middle school students that also do not have art education as part of their middle school general education. Students that did not have art education as part of their general education were students enrolled in other electives. The number of students that were observed were six students. The age of the students varied from 11-14 years old. Class sizes ranged from 30 students to 40 students per period for four separate periods. I observed three students enrolled in art and the other three students were enrolled in other electives. Three students from each group were observed to allow for a meaning comparison range between students who struggled to cultivate self-efficacy and divergent thinking and students that fostered self-efficacy and divergent thinking.

Since art is considered an elective by the school site and district, there is no cap for the number of students that can be added by administrators to each class period. Students can be placed or removed throughout the study for numerous reasons. For this reason, students that have been in the art class for the majority of the study's time frame had their data analyzed. Other students that were not in the observed elective for the majority of the study did not have their data analyzed. The students enrolled for the art class have not been selected specifically for this study. The students for this study will not be required to have prior knowledge or experience with art, as art is not a required core content class. The students for this study were not required to fill out an

application, go through an interview, or submit a grade check. Students, for all other electives, are required to meet those expectations to be enrolled. The art class is inclusive and can consist of reclassified English Learners, Special Needs, Behavior Issue students, or students that have requested to be in the art class. Students can also be placed in the art class at the request of the administration. Students in the other elective courses have gone through the selection process, which includes an application into the desired elective, letters of recommendation, grade check, behavior check, and interview conducted by the teachers who instruct the elective.

Time Frame

The time frame for the study was one week, and students will be starting their fourth quarter. The research lasted for one week due to students' school schedules changing for three weeks for standardized testing. Students also rotate from one elective to another periodically due to low academic achievement in the students' core classes. For example, if a student was struggling academically in a core class, the student would be placed in an intervention core class to support the student academically. The administration also has the authority to rotate the students every semester for several reasons, including to help keep students engaged, interested, and to get students exposed to as many different electives as possible. The semester rotation mainly occurs for students that are in the sixth and seventh grades. A small percentage of eight graders are enrolled in the art class for a whole year by the students' counselor,

administrator, or request of the students' parents. A large portion of the eighth-grade students that are enrolled in the first semester of art can be enrolled in intervention math or English classes for extra assistance in the second semester. At the beginning of the second semester, several students re-enroll in their school that is closer to their home but still within the district. During the second semester, several students move to another city, state, or country. The same reasons apply as to why administrators might add students to the art class at the beginning of the second semester or throughout the school year.

Research Data

Once I received institutional review board (IRB) approval to conduct the autoethnography study, I created an outline of the projects that the students completed during the study's timeline. As a part of the outline, I reflected on instances of self-efficacy and divergent thinking for each project, level of DOK, and Bloom Taxonomy that the students used in art education with creative learning principles. Throughout this autoethnography, I gave personal experiences of observations that responded to the following research questions: What teaching experiences and observations do I, as an art teacher, have in cultivating students' self-efficacy when incorporating art education with creative learning principles? What teaching experiences and observations do I, as an art teacher, have in cultivating students' divergent thinking when incorporating art education with creative learning principles?

As I outlined the organization of the class, I gave instances of students that

appear to be struggling to cultivate either self-efficacy or divergent thinking and then gave my personal account of how I addressed students that were struggling or made changes to the class to cultivate students' self-efficacy and divergent thinking. I gave my experiences as a teacher as to what makes this art education with creative learning principles class different from traditional art education classes. Many of these stories are about how the art class's organization, classroom management, and classroom structure cultivated students' self-efficacy and divergent thinking. Many of these stories are about experiences I had with students and creating a safe classroom environment that would cultivate self-efficacy and divergent thinking. These experiences focus on the voice of the art teacher and how this class is designed to cultivate self-efficacy and divergent thinking.

Data Collection

Data collection for the autoethnographic study comprised of rich thick descriptions from the researcher's observations of students' self-efficacy and divergent thinking before and after students were introduced to art education with creative learning principles. Field notes, memos, observations, and personal experiences were coded by the researcher to determine patterns and themes. The teacher will keep reflections from observations that are dated in the field notes to recall experiences.

Data Analysis

The researcher used thematic analysis in the qualitative autoethnographic study for data analysis. Thematic analysis allowed underlying factors that impact students' creative self-efficacy and divergent thinking to be identified and then examined. The researcher used coding to examine if experiences of the teacher have changed during the duration of the study by comparing observations of students at the beginning and end of the study. Thematic coding examined how experiences varied from observing students that are enrolled in art classes and students that are not enrolled in art classes. Deductive and inductive coding was implemented by the researcher to ensure that patterns are coded (Saldaña, 2016). Deductive and inductive coding allowed the researcher to code for themes that were not anticipated in the research to occur before the study (Saldaña, 2016).

The researcher used semiotic analysis to identify how and why students used specific visual signs and linguistic signs (Glesne, 2016). Tracking the students' use of semiotic analysis with memos assisted in determining how students have cultivated characteristics of self-efficacy through the implementation of elements of art, principles of design, and art terminology. The researcher used field notes to assist in identifying patterns of self-efficacy and divergent thinking during the observations. While observing students, patterns were determined based on the interactions with students. These field notes will allow readers to have insight of how art education has impacted students through

the researcher's perspective.

Validity and Trustworthiness

The strategies that were used to enhance trustworthiness include crystallization, thick descriptions, prolonged engagement, member checking, peer review, an audit trail, and clarification of the researcher's bias (Glesne, 2016). Thick descriptions were used to accurately depict participants and the ideas that the individuals observed would like to convey. Prolonged engagement allowed to understand the language and culture of the participants fully. Prolonged engagement created rapport with the participants. Prolonged engagement increased the probability for the students to trust the researcher to give the researcher genuine observations. Member checking allowed the participants to review the study to ensure that the participants can change or modify any information that they might have shared (Glesne, 2016). The researcher provided their subjectivity statement to be transparent with any biases that the researcher holds as the instructor that will be conducting the study. The research was peer-reviewed to allow other professionals to offer feedback and accuracy. The audit trail will allow for information to be confirmed and documentation checked for accuracy. The researcher will use triangulation to collect data from multiple sources to objectively understand and interpret the study's findings (Creswell & Guetterman, 2019).

Positionality of the Researcher

I have included a subjectivity statement for the sake of transparency and to enhance the trustworthiness of this study. I am both the art teacher and researcher for the art class that the students were enrolled in for the study. Building rapport with participants was part of the qualitative research process that I implemented. I built rapport with two groups of students, including groups of students that have had an art education and students that have not had an art education. After building relationships with the students, I took the data that I gathered and analyzed the data for the effects that art education with creative learning principles students' self-efficacy and divergent thinking.

I am a Hispanic working-class male. I am an art teacher that has worked with various age groups from diverse backgrounds. I have worked with students in K-16 public education. I have also been involved with separate art programs that work with incarcerated adults, senior adults, and adult special needs therapy in the form of art. Since I was young, I have always been interested in art. The time that I had to make art allowed me to experiment and be creative. I did not grow up in a wealthy or middle-class family, but I was able to make do with what I had, which allowed me to be resourceful and have an imagination. I went on to get a bachelor's degree in graphic design and marketing, minor in web design, master's in graphic design, and teaching credential in art.

I believe that art can help students who have not received opportunities to cultivate self-efficacy and divergent thinking if students receive art education with

creative learning principles. I believe that self-efficacy and divergent thinking can be transferred from art education to multiple disciplines. I believe that art takes time, patience, and honesty. This time, patience, and honesty can then help students to be persistent, determined, and motivated despite the student's socioeconomic background.

Art teaches students to think creatively and to think as an individual. In other disciplines, there is often one pathway to get to one solution. Art teaches students to think of multiple pathways to either get to the same solution or a new innovative solution. I believe that as educators introduce art education to students, students learn to take risks and are persistent in achieving their desired outcomes. As students think differently through art, students will be able to differentiate themselves from the same knowledge learned through math, science, history, and English classes.

My understanding of systems of oppression is that students in poor communities of color do not often have the same resources or opportunities as students from more affluent communities (Giroux, 1984). The hidden curriculum, which is what is deemed by society as knowledge, and high-stakes testing are responsible for the opportunities that communities in poor communities have (Apple, 1978; Freire, 2000; Shapiro & Hassinger, 2008). In more affluent communities, school systems require students to take visual and performing arts. Due to the state for allocating school funding dependent on high-stakes testing in low socioeconomic communities, visual and performing arts is optional or not

available for students until the students enter secondary education in California (Lee & Wu, 2017; Macdonald, 2018; Smyth, 2008; Wexler, 2014). I believe that students should be introduced to art education at a younger age and available throughout the students' general education.

I grew up and continue to live in a similar socioeconomic background as the students that were observed. The diversity of the students in the school for this study is similar to the schools that I attended. The teachers and staff are more diverse at the school site where the study will be conducted than the teachers and staff that I had when I was attending K-12 education. I believe that I will find in this study that students will be able to experience self-efficacy and divergent thinking as a result of receiving art education with creative learning principles. I hope that as a result of this study, students will be able to use the same self-efficacy and divergent thinking learned in art and transfer that self-efficacy and divergent thinking to other disciplines to be successful academically and in their future careers.

Summary

This chapter outlined the research methods used to identify the effects of art on the self-efficacy and divergent thinking of middle school students in the Inland Empire located in Southern California. The purpose of this autoethnographic qualitative study was to understand the experiences of an art teacher implementing art education with creative learning principles to cultivate students' creative self-efficacy and divergent thinking at one middle school in the

Inland Empire located in Southern California. Chapter three gave the rationale for the developed research questions, design of the study, the participants selected, and the procedures used for data collection and data analysis. Chapter three concluded with the validity and trustworthiness used to collect the data in the study. The significance of the study was to collect data based on the researcher's observations to determine what effects art education with creative learning principles has on students' self-efficacy and divergent thinking. Chapter four will present the data and findings of the qualitative study.

CHAPTER FOUR

RESULTS

The purpose of this study was to understand the experiences of an art teacher implementing art education with creative learning principles to cultivate students' creative self-efficacy and divergent thinking at one middle school in the Inland Empire located in Southern California. The organization of this chapter contains my experiences and observations as an art teacher cultivating self-efficacy and divergent thinking through art education with creative learning principles. The purpose of applying critical race theory and critical pedagogy as the framework of my study is that students will become critically conscious of the education they receive when incorporating art education with creative learning principles.

Critical race theory allowed students to use lived experiences, cultural competence, and interdisciplinary knowledge as part of their art education that includes creative learning principles. Although Ellis (2016) does not mention critical race theory in her study, Ellis (2016) does make connections of how learning through creative learning principles embraces students' knowledge gained from personal and academic lives to develop solutions through Rhizomatic Learning. Rhizomatic Learning connects concepts learned inside or outside of school and can be applied to a problem from any subject matter to create a creative solution (Ellis, 2016).

For higher levels of cognitive learning to occur, Freire (2002) believed that dialogue must be reciprocal between students and teachers. The dialogue that Freire (2002) mentions occurred in my art education class that incorporates creative learning principles. As students planned, designed, created, reflected, and continued to improve their work, students were able to engage in the transformation of knowledge through critical consciousness and dialogue that occurs in critical pedagogy. The dialogue that Freire (2002) mentions between teachers and students for learning to occur was present in art education with creative learning principles as I worked with students to assist in evaluating and creating their work.

The results of the critical race theory and critical pedagogy study answer the following research questions:

Question One: What teaching experiences and observations do I, as an art teacher, have in cultivating students' self-efficacy when incorporating art education with creative learning principles?

Questions Two: What teaching experiences and observations do I, as an art teacher, have in cultivating students' divergent thinking when incorporating art education with creative learning principles?

The observations and experiences are contextualized as critical race theory and critical pedagogy examples.

Results of the Study

The analysis for the autoethnographic study comprised of rich, thick descriptions from the researcher's observations of students' self-efficacy and divergent thinking. I coded journals, field notes, memos, observations, and personal experiences to determine patterns and central themes that established the autoethnography, including teaching strategies, classroom organization, curriculum, structure, creative learning principles, and interdisciplinary differentiated learning.

Sample Demographics

I served as both the researcher and teacher used in this study that shared my personal observations and experiences as an art teacher that implements art education with creative learning principles to cultivate students' self-efficacy and divergent thinking. The research setting was at a lower socioeconomic, public middle school in the Inland Empire, located in Southern California. The research setting is both urban and diverse. According to the California Department of Education (2020), 25% of the families in the research setting live in poverty. Based on the same data, 84% of the students in the district are eligible to receive free or reduced-price school meals (*California Department of Education*, 2020).

I observed middle school students enrolled in the art class and middle school students who also did not have art education as part of their middle school general education. Students who did not have art education as part of their general education were enrolled in other electives. The age of the students

varied from 11-14 years old. Class sizes ranged from 30 to 40 students per period for four separate periods. The number of students that I observed was ten students. I focused my observations and experiences on one period that included five students who chose to be enrolled in the art class and five students whose counselors placed them in the art class.

Descriptive Data

I kept reflections in journals from observations that are dated in the field notes to recall experiences. The study took place over a one-week timeline. I coded my observations to examine if my experiences have changed during the duration of the study through observations. I implemented deductive and inductive coding to ensure that patterns are coded (Saldaña, 2016). I used semiotic analysis to identify how and why students used specific visual and linguistic signs (Glesne, 2016). Tracking the students' use of semiotic analysis with memos assisted in determining how students have cultivated characteristics of self-efficacy and divergent thinking through art education.

I used field notes to assist in identifying patterns of self-efficacy and divergent thinking during the observations. While observing students, patterns were determined based on my interactions with students. These field notes will allow readers to have insight into how art education has impacted students through my perspective as a teacher.

I documented the number of observations of students' cultivating divergent thinking based on a grading rubric developed by Ellis (2016) (See Appendix A). I

placed the students' artwork on a grading rubric based on the level of Webb's Depth of Knowledge (DOK) and Bloom's Taxonomy that the students use to create their work. Collectively, Webb's DOK and Bloom's Taxonomy are what the Creative Learning Principles consist of (V. A. Ellis, 2016).

I evaluated the students' work based on Creative Learning Principles. I identified the students' divergent thinking levels by placing the assignment on a grading rubric that they have completed according to the different levels of Webb's DOK and Bloom's Taxonomy. After the students completed their assignments, I assessed their divergent thinking based on the grading rubric. I evaluated self-efficacy as students attaining scores in the "Advanced+" and "Advanced" columns of the rubric. Self-efficacy was evaluated by the number of renditions that a student completed or attempted to attain confidence and competence, which was demonstrated by achieving scores in the Advanced+ and Advanced columns. Students demonstrated self-efficacy if they scored lower on the rubric and attempted to raise their scores.

I evaluated divergent thinking by the "Creativity/Design" row of the rubric. Based on the rubric, an "Advanced+" level of divergent thinking was evaluated when the student demonstrated that "the project is completed well and detailed. Met constraints and designed dimensions correctly. Materials are creative and are appropriately used. Evidence of personal interpretation and creative expression." An "Emerging" low level of divergent thinking was evaluated and

demonstrated when the student "attempted the project," "the design is incomplete," or "the project looks like the example given."

Autoethnography

For the organization of this autoethnography, I will go over the context and structure of the classroom. I will begin with how I chose to teach art education in middle school instead of high school. I will then outline the teaching strategies I implemented to cultivate self-efficacy and divergent thinking. As a part of the outline, I will reflect on instances of self-efficacy and divergent thinking, level of DOK, and bloom taxonomy that students cultivate in art education with creative learning principles.

Throughout this autoethnography, I will give personal experiences and observations of students and how art education with creative learning principles cultivates self-efficacy and divergent thinking. There were instances where students experienced self-efficacy and divergent thinking during the same project. For this reason, I will present self-efficacy and divergent thinking as themes under the projects that students completed in class. To be unbiased, I will also give instances of students that appear to be struggling to cultivate either self-efficacy or divergent thinking and then give my personal account of how I addressed it or made changes to the classroom structure to cultivate students' self-efficacy and divergent thinking.

I will give my experiences as a teacher as to what makes this art education class different from traditional art education classes. I will explain how cultivating

students' self-efficacy, and divergent thinking was part of almost every decision I made when developing this class. These stories will be about how art cultivates students' self-efficacy and divergent thinking to help develop, organize, manage, and structure the classroom. Many of these stories will be about experiences with students and creating a classroom environment that would cultivate self-efficacy and divergent thinking.

Why Middle School?

What made me want to begin teaching at the middle school level once I received my teaching credential was my experience during my "student teaching" at a high school in the Inland Empire. Many of the students at the high school level were already unenthusiastic about the projects that they were being asked to complete. This could be for several reasons; either the students thought the projects were irrelevant, or the projects that the students were being asked to complete were mundane since the students were concentrating on fundamentals, basics, tools, and techniques. What stood out to me most was that students were not comfortable making mistakes, so students had trouble experimenting or developing original artwork. Some students would do the bare minimum or not do a project because they thought it was too hard. I observed students being introduced to art for the first time in K-12 education, so they perceived art as hard because they were not accustomed to art from an early age.

I thought about my own experiences during high school and middle school. I tried thinking of what age students are when they no longer become

enthusiastic, curious, or motivated. In other words, at what age are students when learning no longer becomes fun. I did substitute teaching at various elementary schools. Even while I was only at some of these schools for a day, students were enthusiastic about learning core subjects like English, math, and science. I was also a visiting art teacher at an elementary school in Greater Los Angeles. During that time, I worked with students to create a book that students illustrated and wrote to deal with social issues relevant to the students. The issue that students chose was bullying. In a similar experience, I was a visiting teacher at an elementary school in the Inland Empire. I worked with a class of students to design individual shirts illustrated based on a social issue they reflected on and identified in their communities. Although I did give students prompts to expand on thoughts and ideas, the students used both their imagination and real-life experiences to create a book and shirts that the students created and exhibited during separate showcases that were open to the community and the students' families.

Based on my experiences, students were less likely to be enthusiastic or curious about learning by the time students were in high school. Students in high school were less likely to ask questions if they did not understand a lesson, and as a result, students would not ask for help. This experience was the opposite of what I observed working in elementary schools. I narrowed down the timeframe of students' decline in enthusiasm for learning between the end of elementary school and middle school. This age group is also when students begin to be

categorized, labeled, and tracked academically. The student grouping occurs for numerous reasons, whether by their teachers, counselors, or the standardized testing that the California Department requires schools of Education to facilitate. By cultivating self-efficacy and divergent thinking, students will be comfortable making mistakes and asking questions when they need help. Middle school is a pivotal moment in developing students' self-efficacy and divergent thinking, which will be an instrumental time to focus on this group of students (Eagleman, 2019).

Teaching Strategies and Organization

Much of the organization from the class that I observed for my study was similar to what I developed during distance learning. When developing the classroom organization, I was as empathetic as possible whenever I gave students a project. If I assigned a project for a student, I would make sure to have supplies for the students to do the projects in class. I should not expect each parent to go out to purchase supplies. I cannot assume that a parent or guardian will be with the students at home to help them with their projects. I cannot assume that the parents or guardians are familiar enough with the projects I give students to help the students. I cannot expect parents and guardians to know and teach students what I am doing in class.

As a part of my teaching practice, if I cannot teach the students what they need to know during class and I have to give them homework, I feel that I am doing something wrong with how I am teaching students. Calling the assignments "projects" is part of my teaching strategy. I would scaffold students

with smaller projects to ensure that students attained fundamental knowledge of the tools and techniques we would use. I consider the final projects as the culminating summative assessments for the students. Students should be able to use everything that I teach for the class in the projects that they are completing.

I understand that some teachers give homework to give students additional practice. In my experience as a teacher, if students are not receiving the support they need at home, then homework becomes an academic burden. If homework is its separate academic category in grades and students are not receiving the aid at home, they are more likely to fail academically. I am flexible when it comes to due dates for projects but stern in my expectations of students as a student shows me progress. I repeatedly tell the students, “I can only grade what you turn in.” Meaning, that if the students do not turn in a project, I cannot give them a grade or even partial credit.

I also make clear to the students that I do not give homework, quizzes, and tests because students are showing me that they know the content by completing the projects. Each project is purposeful, relevant, and will help the students with the next project. If a student does not complete a project, they cannot move on to the next project. I tell the students that moving on to the next project appears to be “harder” than it should be if they skip a project.

I often tell the students that “you can take your time but don’t waste your time.” I identify “taking time” when students are dedicated to completing a project, continue to put effort towards a project, use class time efficiently, and make

progress daily. “Wasting time” would be waiting close to the due date to begin a project, and most of the class time is wasted.

Curriculum and Structure

I design the lessons that students complete to prepare students with the knowledge and education that students need for higher education and future career. When I give students a lesson, I think about making lessons relevant to students, keeping students engaged, and giving them the flexibility to apply the lesson to their interests. When I think of making a lesson relevant to students, I think about how students can use what they are learning and apply that knowledge long-term and interdisciplinary for other classes.

I ensure that my curriculum is according to the California State Standards and Career Technical Education (CTE) standards. The CTE standards are designed to serve as a training program for students to have career pathway experiences during their education to give students hands-on experience to transition into the workforce. I teach students how to operate the equipment and software to prepare them by the time they graduate from high school to apply for animatronics, arts, media, and entertainment job.

Technology Learning Curve (Self-Efficacy)

This is the first full year students have had in-person instruction since returning from hybrid and distance learning due to the COVID-19 pandemic. Students were nervous and excited about my class and the new equipment, software, and hardware they would use for their projects.

Similar to inequitable access to art education, these students have had inequitable access to technology. Distance learning was the first time many students worked on a laptop. Even though we had a full academic year with distance learning and the students have had their individual computers, students were still familiarizing themselves with the computers, user interface, and program commands. Like many other future careers, students are expected to be familiar with operating different technologies and computer software for careers in the arts, media, and entertainment. For most students, the closest that these students have got to technology before distance learning is playing on gaming consoles and mobile phones.

Students would tell me how they do not regularly use their laptops in their other classes during my research. I noticed that students were still having trouble knowing the difference between a “right-click” and “left-click” or being able to create a “new folder,” or how to navigate to where the students have saved their files.

Before we transitioned to online learning due to the pandemic, I recognized the need for differentiated learning and more technology in the classroom, so I started to create videos that students could follow along with on the few desktop computers that we had in class. If students took up the desktop computers, I would let them use my work laptop, which they could use at their desks. When the students transitioned to distance learning, they received individual laptops that they could take to each class with them and take home

and bring to school each day. I continue to record videos for students, although it still comes with some struggles.

Differentiation (Self-Efficacy and Divergent Thinking)

I used multiple forms of instruction to make lessons and instruction more accessible to students. I created lesson instructions available in different ways, including written, prerecorded videos and step-by-step instructions that I give during class. By accommodating students as much as possible by writing out the instructions and creating the videos, I provide students with as many opportunities as possible to learn the content so that they are comfortable learning. As students received lessons in a way that they were comfortable learning, they began to work independently without the need for my constant direct instruction. Students cultivated self-efficacy when working independently or at their tables in small groups.

Creating a class that felt tailored to the students made giving instructions more manageable. Since my class is more diverse and inclusive, I was able to work more with high-need students who are more likely to get left behind academically in other inclusion classes. If I expect to receive artwork from the students that are different and unique from each other, then I believe that I have to be able to provide instruction to students differently. Some students might need to hear instructions multiple times and in different ways.

By creating a safe working environment, students are more comfortable asking questions and asking for help if they are struggling. As a result, students

would offer to help other students, and students were even comfortable accepting help from other students. Step-by-step instruction is ideal for students that need more one-to-one teaching. In contrast, other students prefer to move ahead and watch the videos that I have created to move at their own pace. I made lessons available for students ahead of time to move beyond the project that most of the class might be working on. I could also circle back and give feedback on a previous project that a student has moved on from.

During this study, I made all my lessons available to the students through video. One of the struggles students still had was following along with videos even though I created step-by-step videos to work at their own pace. Students struggled with me not telling them what to do, moving at their own pace, and waiting for the teacher to move on to the next step. Another reason that I also created videos for class management was to assist students who needed more one-to-one instructions, were high needs, special needs, or students with "behavior issues," and I needed to build rapport and respect with them. As an elective, I do not have a cap on the number of students that can be enrolled in my class. The number of students enrolled in my class has been as high as forty-five students in the past.

I have tried going over the same lesson, step-by-step, with the whole class of forty-five students simultaneously, and it is not as productive or efficient as it should be. Students also become impatient with others and students are reluctant to ask questions because they do not want to look, in their words,

“dumb.” Even though students have access to computers, the school district’s internet network limits programs, websites, and software students can install. I used the limitations set by the school district as a challenge and a constraint for the students. I would use the constraints as an opportunity to teach students constraints and be resourceful with the supplies and materials that I gave them.

Constraints (Self-Efficacy and Divergent Thinking)

Constraints allowed me to learn with the students and think of what projects students could do to understand art concepts on their computers still. Occasionally, limitations that we have can be a learning opportunity. We have done several projects that students have constraints on, such as the supplies, materials, or tools that students can use to produce their projects. An unlimited amount of materials or supplies sounds ideal but having constraints is where I have witnessed students cultivate divergent thinking. If students had everything they needed, they would never have to stop and ponder what they could do differently to attain their goals. When a student has some constraints, I see students cultivate divergent thinking. A student would try to figure out how they can still make what they are trying to do with what materials, tools, and supplies I have given them.

For example, students were working on a project and were required to draw out and design a pneumatic crane. The drawn-out design had to include all or less of the supplies provided for each student. Several students used all of the supplies, while others used less of the materials I gave them. Few designs got

close to a final product, but their designs changed once they began building the cranes and some students found a use for all of the supplies. When constraints, students were less likely to give up. I assured them that they had everything they needed to create a functioning pneumatic crane. What gave some students confidence was seeing their peers get close to having a completed crane with the supplies I gave them. The struggling students continued experimenting and trying different designs by seeing their peers get close to a completed functioning crane. Some of the students that were previously struggling were able to make the crane function but continued to improve their design to lift objects higher with more stability than their first design.

Creative Learning Principles (Self-Efficacy and Divergent Thinking)

The projects that I gave students required that they use prior knowledge to move on to the project. The projects that I gave students at the beginning of the semester were simple, requiring software and almost no equipment. As the semester moved along, the projects became more advanced. The students used more tools, 3D software, and equipment such as laser cutters and 3D printers.

Creative learning principles (CLP) in art education incorporate Bloom's Taxonomy and Webb's Depth of Knowledge (DOK) into high levels of learning (Ellis, 2016). Bloom's Taxonomy and Webb's DOK are different levels of learning that a student performs based on the difficulty of an assignment (Ellis, 2016). Higher levels of learning require more critical thinking, creating, planning, project-

based learning, and analyzing (Ellis, 2016). Lower levels of learning only need short-term recall and memorizing (Ellis, 2016).

Art education with CLP also means using lower levels of Webb's DOK and Bloom's to scaffold students from simpler projects to more advanced ones. I use the DOK questions to scaffold students and introduce them to the terminology and technology. Students begin the quarter with Level 1 DOK questions and end each project with Level 4 DOK prompts. The students then repeat the thought process for the next lesson. As the quarter progressed, students began new projects at Level 2 and Level 3 before moving on to the final project.

Although not explicitly stated, DOK and Bloom's levels allowed students to make successes incrementally to cultivate self-efficacy. I've observed students' building their self-efficacy by starting with lower levels of DOK and Bloom's. Once students are competent and confident in the current level, students are free to move on to the next level. I try not to mention what students will be doing for a final project to not overwhelm students. I have seen students completely shut down and not attempt a project because the goal seems unattainable. Allowing students to move at their own pace also helps me know if there is anything that I need to reteach and if students are taking any knowledge away from lessons they previously received.

Interdisciplinary (Self-Efficacy and Divergent Thinking)

Language Arts (Self-Efficacy)

We started the beginning of each class for the first few weeks by writing down the definitions for the Elements of Art and Principles of Design. Although it sounds repetitive, students are still getting used to the organization and structure of the class. Students are also getting accustomed to navigating through the program that we use to organize and submit projects. While I am taking advantage of this opportunity to get to know the students' names, students are also incentivized with simple DOK recall questions. When I asked students to respond to simple DOK questions, I built rapport with them and made the class appear "easy." The ease of these tasks even got students to participate willingly.

The questions that I asked students would sometimes be information that might already be common knowledge or build on students' prior knowledge, such as knowing what primary colors, secondary colors, or tertiary colors. I try to "gamify" learning by putting students' names in the computer that randomly shuffles and calls on a student. I make learning seem like a game while also asking questions that the students might already know to build students' self-efficacy.

When I called students' names randomly, I created equity in the classroom to ensure that every student received a fair chance. The randomization of how I called students' names ensured that students were more likely to write down the definitions so that when I called on students, they responded. Calling on students

randomly also allows students who may not typically hear praise to have the opportunity when they are called on randomly. The program that I use to call on students goes through all of the students' names before restarting the deck of names and reshuffling. The shuffled names remove any bias that the students may think I have towards them.

Although the semester began with simple "recall/memorize" DOK questions, the class moved on to higher DOK and Bloom's tasks to create and formulate their own opinions. One way that students do this is through written critiques. I make sure that students are entirely fluent in art education by reading, writing, and speaking in art. Even when I give students written critiques, students' perspectives and interpretations are essential.

History (Self-Efficacy and Divergent Thinking)

Written critiques are made of five parts: Description, Biography, Art Information, Analysis, Interpretation, and Judgment. I use the written critiques to integrate art history into the lesson and allow students to be entirely fluent in art education by reading, writing, and speaking in art.

Students have to investigate the artwork to see which element of art or principles of design the artist of the artwork used the most. Since there is a range of students with different strengths and assets, I give students the freedom to choose their prompts and how they respond to the prompts. To keep students engaged and continue making learning seem like a game, I respond in a way that encourages students to check their work. When students are sharing their

responses, I reply “could be,” “maybe,” “possibly.” I respond this way to students so that students do not get embarrassed if they respond incorrectly. If students answer incorrectly, they identify their own mistakes and fix the error themselves. When I respond to students this way, it avoids any embarrassment and reluctance students might have if I told them they were wrong in front of the class. When I responded questionably to students, they were likely to continue participating in the future.

Written critique responses are open-ended. Students can respond as long or as short as they want as long the students answer the question. Students were randomly called on to volunteer to share their responses during Quick Writes, even if students were struggling or not. After I randomly call on students, I take volunteers to share their responses. There are 30 students per class, and students will see the artwork in 30 different ways. Each student is going to see an artwork differently. Some students will notice color right away, while others will notice textures. I would accept the responses if the students justified what they saw and told me where they saw it in the artwork. Taking multiple answers allows students to cultivate divergent thinking since we hear from various perspectives. Getting various responses made students more likely to be correct instead of expecting the students to know one answer. If a student can justify, explain, and tell me why, that creates value for the students’ experience and cultivates self-efficacy.

Math (Self-Efficacy and Divergent Thinking)

At the beginning of the study, students did not feel comfortable making mistakes. As a teacher, I observed students' habits, practices, interests, and dislikes in other classes. I try to disguise subject matter like engineering, math, and science in this course. An example of a math project I gave students is a grid transfer. For students that would have trouble with ratios or fractions, I would incorporate math through grid transfers. We take measurements and use a ruler to prepare the whole project by drawing a grid on the original image and the paper that the final drawing will be on. Without tracing, students learn how to scale a smaller image into a larger image in a grid transfer project.

I often get one reaction that students say, "I thought this was an art class!?" Meaning that the students didn't expect to do math. To which I would respond, "That's what art IS! Art is all of those things." Even for many of these students, students perceive that art is only valued for its affective, aesthetic, tools, and technique benefits. I often experienced that I have to change students' perceptions of what art is. In doing so, I could also have a positive influence on how students look at what they are learning in other classes. I would use art to get students to become more comfortable and interested in a subject they could strengthen. I would integrate those subjects for students who struggle in other disciplines into this class. Many students struggled with using a ruler and knowing how to take and make measurements. When I first started teaching art

in public school, this was a surprise, but instead of embarrassing or shaming the students, I used this as a learning opportunity.

Science (Self-Efficacy and Divergent Thinking)

Even if students do not use the art skills, techniques, or knowledge in the future, they will at least cultivate self-efficacy and divergent thinking habits in their future or higher education. I tried to tell the students as often as possible that art and design are inherently science-based. The students must be willing to experiment and see what works and what does not work to achieve their intended outcome. Students have to learn from their mistakes and be ready to conduct the experiment again. Part of the science habits would be developing a quick sketch, or rough draft, of what they want to complete. Students cultivated self-efficacy when they continually experimented with a project and saw a project through from beginning to end. I emphasize that students reflect and use the knowledge they gained from previous projects to complete the next culminating project. Not only are the habits that students gain scientific, but the projects that students complete are also science-based. Students work with motors, batteries, electrical wires, leverage, fulcrum, anatomy, pneumatics, and atmospheric perspective. The students even have to learn about chemistry when mixing colors and to mix sculpting materials to make prosthetics.

Research Questions

Question One

What teaching experiences and observations do I, as an art teacher, have in cultivating students' self-efficacy when incorporating art education with creative learning principles?

Through my experience as an art teacher who uses creative learning principles, I have seen how art education impacts students' self-efficacy. My first-hand perspective gives others insight into how students have cultivated self-efficacy. I documented the impact that I am having as an educator on cultivating students' self-efficacy. I observed the effect of art education with creative learning principles on students cultivating self-efficacy. I observed that I cultivated self-efficacy by giving students as many opportunities as possible to learn art education through differentiated and interdisciplinary learning. Interdisciplinary learning is characteristic of the critical race theory tenets as lived experiences, cultural competence, and interdisciplinary knowledge is valued.

Students made connections of learning through creative learning principles. Students were encouraged to embrace their knowledge gained from personal and academic lives to develop solutions through Rhizomatic Learning. Through Rhizomatic Learning, students made connections between concepts learned inside and outside of school and applied their knowledge to a problem from different core disciplines.

One of the projects that I did was have students read scripts from movies they are familiar with. Students developed their literacy skills while reading from the script, and the students recorded. The students also listened to themselves when they played back their audio recordings. Students received different responsibilities and worked with each other through unfamiliar roles. Students take on the roles of director, audio engineer, and voice actors. Students rotate in and out of the different roles. Some of the students who did not like the role can take on other responsibilities with learning still being able to continue.

Students are more comfortable working in different learning environments. Some students are excited to work together in small groups but still struggle to get up in front of other students to read. If a group of students said that this was too hard, I would have to reassure them that this is only challenging because it is a new subject that they have not done before. I would also have to change students' perception of how they thought of projects as "hard." I would often have to put into perspective for students that art is not "hard" but that what they are learning is new and different for them. By changing students' perceptions of art, I am using art to make students critically conscious of how most have not had the opportunity to have art throughout their education. Since kindergarten, average students have had math, English, science, and history. They have not been in art for as long as they have been doing the other school subjects, and that art would take practice. This class would be a crash course since they have not had art

before. They learned a lot about the fundamentals, principles, and techniques quickly since this would be their first art class for many of the students.

I think of this class as a crash course. Due to the lack of funding for art classes, it would be uncertain if the students would even have an opportunity to take a class like this in the future. Students might also not have the class available to them for academic reasons. Some students might be placed in remedial classes if their grades fall below a particular range on their math or English test scores. I also consider the art class a crash course for another reason. Students could find out if they liked or did not like working in this industry at a young age instead of regretting not taking the course and not having the experience at an older age. But I believe that students would still be able to take something away from this course. No matter what industry or line of work these students go into in the future, students will need self-efficacy and divergent thinking.

Question Two

What teaching experiences and observations do I, as an art teacher, have in cultivating students' divergent thinking when incorporating art education with creative learning principles?

I documented my impact as an educator on cultivating students' divergent thinking. I observed the effect of art education with creative learning principles on students cultivating divergent thinking. I observed that I cultivated divergent

thinking by giving students as many opportunities as possible to learn art education through differentiated and interdisciplinary learning.

Through art education with creative learning principles, I was able to make students critically conscious of how the students needed to use this class as an opportunity to cultivate divergent thinking. I emphasized that they should be able to create artwork reflective of their personal and academic lives or through Rhizomatic Learning.

Students received opportunities to divergently think of concepts from different disciplines but through the art lens. By teaching art education, students could obtain art education from different perspectives. Students were able to make connections from other disciplines such as science, math, history, and English. When I introduced lessons to students at the beginning of the semester, they would occasionally comment, “I thought this was art class, not science,” or “I thought this was art class, not math.” Even during the study, students began to connect art education, and the perception that students had of art changed.

Occasionally, I let students see what a final project would look like. I am always reluctant to because, in my experience, students often use the examples that they see as a guideline. Students especially struggled with divergent thinking when I introduced lessons using video tutorials I created. Although the video instructions did cultivate self-efficacy, several students struggled with divergent thinking. Students would emulate the same examples I would give in their instructional videos. Students had trouble incorporating their interests into the

projects. Students did not receive many opportunities in their past to make or create a project that included their interests. Students were so used to being given choices and selecting from those choices. Students rarely gave their opinions or made their interests known.

Some students who excelled at common core subjects would struggle with having open-ended instruction and having the freedom to be creative. For example, if I demonstrated how to get started on a project and created a bookmark in 3D software to be 3D printed, most of the students would recreate that same bookmark except for changing the bookmark to have their name on it. Even when I encouraged students to think of a character from a book genre or book series with a main character, students will still create a bookmark design close to the tutorial version. No matter how many times I said in person and the video, “try to think of something you are interested in, design it using what you have learned in previous lessons, and try creating it. If there is something that you want to create but do not know how, then I could show you how.” I would tell students, “When I create a video, I show you the bare minimum of how to complete a project. All of your final work should be better than mine because you had more time to complete it. Take the techniques that I am teaching you and combine those techniques with what you are interested in.”

I would have to probe students to navigate them towards something they are interested in to incorporate into the lesson they were currently working on. Students were not used to being asked to incorporate their interests. Most of the

students described this class as their first experience in years that they were doing something creative and interested in.

Summary

The experiences and observations that I shared are fluid and go back and forth between self-efficacy experiences and divergent thinking experiences. I did not separately group the stories of self-efficacy and divergent thinking. Instead, I chose to tell the experiences in order of occurrence. My experiences as an art teacher included observations of students cultivating self-efficacy and divergent thinking in art education. I began the chapter by telling how I chose to teach middle school from realizing through my experiences as a teacher that middle school was the age group where students became less enthusiastic about learning due to low academic achievement and over-testing. Next, in chapter four, I went through the teaching strategies, organization, and curriculum that I have developed to create an art education class that utilizes creative learning principles to cultivate students' self-efficacy and divergent thinking. Creative learning principles combine art education with high levels of DOK and Bloom's to give students opportunities of learning through interdisciplinary projects that scaffold students to understand the content. As students grasped content from other disciplines such as language arts, science, math, and history, students cultivated self-efficacy and divergent thinking.

The reflections documented in my journals, memos, and notes helped me understand how I can cultivate students' self-efficacy and divergent thinking. As I

reflected in my journals and memos, reflexivity became a reoccurring theme of how I teach and my expectation of my students. When I observed my students, I tried putting myself in their place to understand what my students need to succeed, take what they learn from my class, and apply it to other classes to cultivate self-efficacy and divergent thinking.

As a teacher, I observed what my students struggled with, their challenges, and their successes. I then reflected on whether students were struggling with what was in my control as a teacher and whether I could adapt and differentiate my lessons to help students cultivate self-efficacy and divergent thinking. If a student was not successful, was it because of how I taught, and if it was, I realized that I needed to adapt lessons to accommodate students. As a result of this study, I hope that other educators' perspectives are valued as research. This autoethnography offers insight through the lens of an art teacher through rigorous reflexivity. As an art teacher, I analyzed different emerging classroom struggles to understand what connecting with students through art education means and how art education cultivates self-efficacy and divergent thinking.

Critical race theory allowed students to use lived experiences, cultural competence, and interdisciplinary knowledge as part of their art education that includes creative learning principles. As students were able to use their lived experiences and interests for their artwork, students' self-efficacy and divergent thinking were cultivated when students created artwork that was unique to their

lives. Although students did struggle with divergent thinking, they cultivated self-efficacy since the students were critically conscious that they were making artwork that was relevant to their personal interests. Thought-provoking dialogue occurred when students were critically conscious when students asked me questions. The transformation of knowledge occurred as students became critically conscious as students planned, designed, created, reflected, and continued to improve their artwork.

CHAPTER FIVE

RECOMMENDATIONS AND CONCLUSIONS

Introduction

This study used a qualitative research model approach. I collected data for this autoethnographic study using rich, thick descriptions from my experiences as an art teacher, observing students cultivating self-efficacy and divergent thinking through art education that implements creative learning principles. I coded data from my field notes, memos, and journals from personal observations and experiences. This autoethnography allowed me to give insight into how I, as an art teacher, used art education to be reflexive and understand the academic needs of students to cultivate self-efficacy and divergent thinking. The goal of this study is that educational leaders use the findings to create opportunities to cultivate self-efficacy and divergent thinking by introducing art education with creative learning principles at earlier grade levels.

Problem

The problem addressed in this study is the lack of opportunities for students to cultivate self-efficacy and divergent thinking through traditional art education in the PK-12 curriculum (Kraehe, 2017). Due to high-stakes testing, the United States has nearly eliminated art education to focus on test preparation (Wexler, 2014). Art education that includes creative learning principles incorporates high levels of Bloom's Taxonomy and Webb's Depth of Knowledge.

High levels of learning required that students design, create, and critique new work of their own and preexisting historical artwork. Self-efficacy is a student's ability to cultivate confidence and competence in their ability to achieve the desired outcome even when mistakes and failure occur (Bandura, 2012). Self-efficacy is essential when students are learning academic content for the first time, and students might not initially grasp the content in other school disciplines (Collins, 2016). When students are learning the same content through general education, students need opportunities for divergent thinking to think and learn differently from one another (Puente-Díaz & Cavazos-Arroyo, 2017).

Purpose

The purpose of this autoethnographic study was to understand the experiences of an art teacher implementing art education with creative learning principles to cultivate students' creative self-efficacy and divergent thinking at one middle school in the Inland Empire located in Southern California. In this chapter, I will review and make connections between the key findings of this study and the theoretical framework of critical pedagogy and critical race theory. Based on the findings of this study, chapter five also gives recommendations for educational leaders, next steps, recommendations for future research, limitations of the study, and conclusions.

The following research questions guided the study:

Research Question One: What teaching experiences and observations do I, as an art teacher, have in cultivating students' self-efficacy when incorporating art education with creative learning principles?

Research Questions Two: What teaching experiences and observations do I, as an art teacher, have in cultivating students' divergent thinking when incorporating art education with creative learning principles?

Research Design and Methods

The design of the study was a qualitative autoethnography of myself as an art teacher who uses creative learning principles in art education to cultivate self-efficacy and divergent thinking. The researcher chose a qualitative study because it offers a first-person perspective from my experiences as an art teacher in a middle school located in the Inland Empire in Southern California. To accomplish this, I made observations over a week's timeline to determine the effects of art education with creative learning principles on students' self-efficacy and divergent thinking. I took field notes and memos during the duration of the study to collect observational data and evidence of students cultivating self-efficacy and divergent thinking.

As the researcher, I implemented deductive and inductive coding to ensure that patterns were coded and to allow myself to code for themes that were not anticipated (Saldaña, 2016). I used coding to examine if my experiences as a teacher changed during the study by comparing observations of students at the beginning and end of the study. I used thematic coding to examine how my

experiences as a teacher varied from observing students placed in my art class and students who chose to be enrolled in my class.

As the researcher, I used semiotic analysis to identify how and why students used specific visual signs and linguistic signs (Glesne, 2016). I used memos to track the students' use of semiotic analysis through the students' use of art terminology to determine how students cultivated characteristics of self-efficacy. The researcher used field notes to assist in identifying patterns of self-efficacy and divergent thinking during the observations. While observing students, I determined patterns based on my interactions with students. These field notes will allow readers to have insight into how art education has impacted students through the researcher's perspective.

Findings

Through my experience as an art teacher who uses creative learning principles, I observed how art education impacts students' self-efficacy. My first-hand perspective gives others insight into how students have cultivated self-efficacy. I documented the impact that I am having as an educator on cultivating students' self-efficacy. I observed the effect of art education with creative learning principles on students cultivating self-efficacy. I observed that I cultivated self-efficacy by giving students as many opportunities as possible to learn art education through differentiated and interdisciplinary learning. Interdisciplinary learning is characteristic of the critical race theory tenets as lived experiences, cultural competence, and interdisciplinary knowledge is valued.

As a key finding in this study, the strategies that cultivated self-efficacy were differentiated and interdisciplinary learning in art education that used creative learning principles. Students became more critically conscious of their education when creative learning principles were incorporated. Using critical race theory as the framework allowed students to use lived experiences, cultural competence, and interdisciplinary knowledge for the projects that they completed. Creative learning principles embraced students' knowledge gained from their personal and academic lives through Rhizomatic Learning. Students gained knowledge through Rhizomatic Learning from the students' personal and academic lives to cultivate self-efficacy and divergent thinking. As students were able to incorporate their personal interests and lives into their projects, they were more invested in the projects they created, allowing them to cultivate self-efficacy and divergent thinking.

Rhizomatic learning makes knowledge interconnected and not compartmentalized into different classes. I was able to create "buy-in" faster for the students that were only interested in art and design and not initially interested in core subjects. With some challenges, I was able to spark the interest of students that started class interested in math, science, history, or English. I used other disciplines to scaffold students by incorporating creative learning principles through art education. These students were more likely to complete a project than when I created the same lesson without differentiated learning and working with the whole class on the same project at the same time.

As middles school students became more critically conscious, the students were more aware of the educational inequities in traditional art education classes and art education that includes creative learning principles. As part of the framework, critical race theory allowed students to challenge the assumption that educational institutions create equitable opportunities (Solorzano and Yosso, 2002).

Students need to be aware of the education they receive to be empowered to enact change which is why art education with creative learning principles, critical race theory, and critical pedagogy are part of the conceptualization of this study. Critical consciousness is important for students to develop to think critically about how art education with creative learning principles can empower students to cultivate creative self-efficacy and divergent thinking.

As students were introduced to critical pedagogy and critical race theory, they became more aware of the inequities in their communities and educational institutions. If students are critically conscious of the inequities that exist, students will have the potential to continue to overcome academic challenges if students remain in art education with creative learning principles that cultivate self-efficacy and divergent thinking.

When I used differentiated learning, students had a choice to use the type of instruction they preferred. If the student liked reading, they would use the written-out instructions. If a student preferred hearing the instructions, I went over the instructions at the beginning of each new project. If a student needed more

time, worked at a different pace, needed repetition, and needed to hear the instructions multiple times, then the student would use my video instructions. If a student needed more one-on-one instruction, I made myself available and engaged in dialogue.

One of the projects that I did was have students read scripts from movies they are familiar with. Students developed their literacy skills while reading from the script, and the students recorded. The students also listened to themselves when they played back their audio recordings. Students are also receiving different responsibilities and work with each other through unfamiliar roles. Students take on the roles of director, audio engineer, and voice actors. Students rotated in and out of the different roles. Some of the students who did not like the role can take on other responsibilities with learning still being able to continue.

Some students are excited to work together in small groups but still struggle to get up in front of other students to read. If a group of students said that this was too hard, I would have to reassure them that this is only challenging because it is a new subject that they have not done before. I would have to make students critically conscious of the lack of opportunities they had previously in their education to experience art education. I would also have to change students'

> perception of how they thought of projects as “hard.” I would often have to put into perspective for students that art is not “hard” but that what they are learning is new and different for them. Since kindergarten, average students have had math, English, science, and history. They have not been creating art for as long as they have been doing the other school subjects, and that art would take practice (Teacher, electronic journal).

Students would emulate the same examples I would give in their instructional videos. Although the video instructions did cultivate self-efficacy, several students struggled with divergent thinking. Students had trouble incorporating their interests into the projects. Some students who excelled at common core subjects struggled with having open-ended instruction and having the freedom to be creative.

> I documented my impact as an educator on cultivating students’ divergent thinking. I observed the effect of art education with creative learning principles on students cultivating divergent thinking. I observed that I cultivated divergent thinking by giving students as many opportunities as possible to learn art education through differentiated and interdisciplinary learning.

> Through art education with creative learning principles, I was able to make students critically conscious of how the students needed to use

this class as an opportunity to cultivate divergent thinking. I emphasized that they should be able to create artwork reflective of their personal and academic lives or through Rhizomatic Learning.

Students received opportunities to divergently think of concepts from different disciplines but through the art lens. By teaching art education, students could obtain art education from different perspectives. Students were able to make connections from other disciplines such as science, math, history, and English. When I introduced lessons to students at the beginning of the semester, they would occasionally comment, “I thought this was art class, not science,” or “I thought this was art class, not math.” Students began to connect art education with other disciplines even during the study, and the perception that students had of art changed (Teacher, electronic journal).

Although it may seem impossible, I created opportunities to work one-to-one with students using “Check-Ins.” I used “Check-Ins” as a strategy to randomly call students up to me to show me their progress and to create dialogue.

Thought-provoking dialogue, which often occurs when students are critically conscious, occurred in my art education class and used creative learning principles to encourage students to ask questions. For higher levels of

cognitive learning to occur, Freire (2002) believed that dialogue must be reciprocal between students and teachers. The dialogue that Freire (2002) mentioned occurred in this art education class that uses creative learning principles.

Even if students appeared to be on task while I paced around the room and used proximity, I would find out if students were at a standstill when I called them up to check on their progress. By creating dialogue during “Check-Ins,” I would be able to probe students on what they are interested in to make the students’ work different from their peers. Highlighting small successes along the way in our dialogue helped students cultivate divergent thinking and self-efficacy.

> I would have to probe students to navigate them towards something they are interested in to incorporate into the lesson they were currently working on. Students were not used to being asked to incorporate their interests. Most of the students described this class as their first experience in years they were doing something creative and interested in (Teacher, electronic, journal).

When I pointed out, recognized, and reminded students of how much they had accomplished already in the class, students’ self-efficacy became noticeable, and they persisted in working on their projects. Students seemed to be used to having choices given to them instead of having their interests incorporated into the projects that they were working on. Since this was a crash course in art, I suggest that students receive more opportunities to explore their interests.

Students would need more opportunities to express their interests during earlier stages of academia.

The reflections, notes, and memos were valuable to me to understand what teaching strategies worked best for some students and which strategies did not. The reflections allowed me to adapt lessons to meet the needs of the students to cultivate self-efficacy and divergent thinking.

As a finding of this study, an autoethnography was the ideal method to implement this study to cultivate students' self-efficacy and divergent thinking. Autoethnographies are another form of discovery for internal decision-making as a teacher. Teachers' decisions need to be considered valid and noteworthy because of what teachers can learn about their students' self-efficacy and divergent thinking from reflecting. I had to conduct an autoethnography to be systematic in my reflection to create lessons that were effective for student learning. Reflections in autoethnographies are valid as research because I needed to organize a running record of conversations with students to know what methods of learning were working for the students and what methods were not effective.

Reflecting is similar to the description, interpretation, and judgment parts of a written critique in art. I had to describe my observations, judge whether my strategies were effective, and interpret students' behavior as either struggling or cultivating self-efficacy and divergent thinking. Choosing to complete this study as an autoethnography was necessary to cultivate students' self-efficacy and

divergent thinking. An autoethnography allowed me to improve and enhance my teaching by reflecting on observation and experiences. Without having dialogue with the students, I, as a teacher, would not have been successful at cultivating students' self-efficacy and divergent thinking.

This autoethnography allowed me to give insight into how I, as an art teacher, used art education to be reflexive and understand the academic needs of students to cultivate self-efficacy and divergent thinking. I analyzed power relations, stereotypes, and different emerging classroom struggles and deeply understood what connecting with other people through art education means. As a result of this study, I hope that teachers' experiences and observations become more valued as resources for research.

Recommendations for Educational Leaders

Recommendations for future educational leaders would be to create opportunities to cultivate self-efficacy and divergent thinking by introducing art education with creative learning principles at earlier grade levels. Currently, students are only required to take one visual and performing arts class to graduate from high school in California.

Educational leaders need to consider creating as many opportunities as possible for students to learn. If students can recognize their learning, then self-efficacy will be cultivated. Self-efficacy is not cultivated if students are punished or placed in remedial classes that group other students with similar grades and are not inclusive.

Educational leaders need to introduce art education classes that incorporate creative learning principles. In doing so, students grasp interdisciplinary concepts and give students opportunities to make connections between art education and other disciplines.

Reform in education also needs to occur with educational leaders' perceptions of art education. Traditional art education is valued for affective aesthetic reasons, tools, or techniques used in art. Art education with creative learning principles uses high levels of cognitive thinking through DOK and Bloom's Taxonomy. When an art education curriculum incorporates creative learning principles, that results in the cultivation of students' self-efficacy and divergent thinking.

Educational leaders need to consider opportunities for students to differentiate themselves from each other through divergent thinking that is cultivated in art education. When students enter education, they receive the same lessons and curriculum as their peers, with few opportunities to cultivate divergent thinking. In core classes, teachers expect the same answers from students. All answers are objective in science and math. In history class, the teacher gives one perspective. Except for creative writing, which may or may not occur in their English class, art class would be one of the few opportunities students have to cultivate self-efficacy and divergent thinking.

Teachers should consider reflecting and having dialogue with themselves. Teachers need opportunities to externalize that inner dialogue and reflection to

create an innovative curriculum that works for all students. Teachers have to discover and take risks to try different strategies for student success. Teachers cannot expect that all students will have a successful outcome from a singular teaching strategy. As students' divergent thinking is valued, educational leaders should consider implementing differentiated learning.

Educational leaders should advocate art education in schools to give students opportunities to cultivate divergent thinking. Educational leaders should use art to give students the opportunity to use art to find multiple solutions to the same problem to break away from the standardized curriculum that expects all students to solve problems using the same solutions. Divergent thinking in art education will allow students to differentiate themselves from each other and cultivate self-efficacy by recognizing their value in their individuality.

Lastly, educational leaders should consider incorporating art education with creative learning principles into all disciplines to create as many opportunities as possible for students to cultivate self-efficacy and divergent thinking.

Next Steps for Educational Reform

The next step for educational reform would be to consider the role of the teacher as a researcher and value the experiences and observations as data through autoethnographies. Autoethnographies need to be valued by educational leaders for the personal experiences that offer first-hand insight for research. Teachers will become agents of change by being able to implement an

innovative curriculum that uses art education to cultivate students' self-efficacy and divergent thinking for academic achievement.

Teachers that cultivate self-efficacy and divergent thinking make up for the fact that schools are concentrating on math and English for standardized testing. In my teaching experience, I observed students' self-efficacy and divergent thinking cultivated through the interdisciplinary differentiated learning in art education. The purpose of education is to prepare students for higher education and future careers. If students are receiving low test scores, then the education that students are receiving does not have the intended effect. Educational leaders should reform education to implement what works for students. If tests scores are not improving, then educational leaders should be able to recognize that change to the curriculum needs to occur.

Standardized testing scores should not measure how much funding a school receives. The fluctuation of availability for art education classes should also not be what is at stake for low academic achievement. Students who may not do well academically in history, science, math, or English class may lose out on learning opportunities if they instead have art education classes that incorporate interdisciplinary differentiated learning.

Students need more opportunities to receive opportunities to cultivate self-efficacy and divergent thinking. Educational leaders need to reform education to include more than one art class from earlier grade levels to high school. There is a stigma associated with traditional art education as an elective. Once

implemented, educational leaders should not classify art classes as an elective. Since art classes are identified as an elective, there is no cap on the number of students that can be enrolled. In my experiences as an art teacher, I have had classes with over forty students for each period. Like core classes, if art classes are overcrowded, learning is challenging, leading to self-efficacy and divergent thinking less likely to occur.

Recommendations for Future Research

A consideration for future research would be for the researcher to conduct long-term research on students that received art education at earlier stages of academia and compare their self-efficacy and divergent thinking to a group that has not received art education. The researcher can include interviews with students and how they perceive their self-efficacy and divergent thinking at the beginning of the study and end.

The researcher can identify students' self-efficacy based on a Likert scale survey prompt developed by Bandura (2012). Students can receive the survey during the first week of the study that asks students to measure their perceptions of the students' self-efficacy. Students will also receive the same self-efficacy survey at the end of the study. The difference between students' perceptions from the beginning to the end of the study will determine students' divergent thinking levels.

An additional recommendation for research would be to measure divergent thinking. The researcher can collect artifacts and document student artwork at

the beginning and end of the study. Students can complete the same assignment at the beginning of the research and the end of the study. After the students complete the first assignment, students will assess their divergent thinking based on the students' perceptions. At the end of the research, the researcher could ask the students to complete the same assignment and have the students assess their divergent thinking once more.

Any artifacts collected could be used as visual data to determine if students had developed more renders and artwork attempts before the finalized version of the students' artwork. The change in details from the students' first renders to the students' last renders in the study and time spent exploring creative solutions could indicate divergent thinking. A higher number of renders and changes have been interpreted as a higher level of self-efficacy to achieve the students' desirable goals.

The next consideration for future research would be to divide students into two different groups. One group can serve as the control group who did not receive art education with creative learning principles or have art as an elective. In contrast, another group could serve as an independent variable that received art education with creative learning principles. Students that cultivate or do not cultivate self-efficacy and divergent thinking served as the dependent variable. The control and independent variable groups could be students from the same school and grade levels. The students in the control and independent variable groups could be enrolled in similar courses such as math, science, English,

history, and physical education. The students in the independent variable group should be enrolled in the art class. In contrast, students in the control group could be enrolled in alternative elective courses such as yearbook, associated student body, and advancement via individual determination (AVID).

Limitations of Study

A limitation of the study is that the study is autoethnographic and builds on my experiences and observations as an art teacher and may be perceived as biased since I did not incorporate quantitative data. Another limitation of the study is that the study uses students who have varying degrees of experience and interest in art. Some of the students enrolled in the class have never taken an art class or have limited previous experience with art. The study does not require students to have had all types of visual and performing arts classes, including dance, media arts, music, theatre, and visual arts, in the past.

An additional limitation will be that the study will not compare students from different socioeconomic communities or districts to identify any disparities or differences in self-efficacy and divergent thinking. Another limitation of the study is that the students that will enter the art class come from different interest levels and skill levels. Administration and counselors place the students that are part of the class for several reasons. These students are not met with the same barriers, restrictions, and parameters as other electives.

Other electives require grade checks, an application process, and interviews conducted by the teachers of the other electives. Students are placed

in the class for various reasons, including behavior issues in other classes, special needs, newly enrolled at the school, placed by the administration, or the students did not go through the application process for other electives. In the district where this study was conducted, there is no cap on how many students can be enrolled in a single art class because art is an elective and not a core class. At times, enrollment of students has been over forty students per period totaling two hundred students over five different periods throughout the day.

Conclusion

The purpose of this study was to understand the experiences of an art teacher implementing art education with creative learning principles to cultivate students' creative self-efficacy and divergent thinking at one middle school in the Inland Empire located in Southern California. The problem addressed in this study was to reflect on teachers' experiences of incorporating teaching strategies that cultivate students' self-efficacy and divergent thinking. The problem addressed in this study was due to the lack of opportunities for students to cultivate self-efficacy and divergent thinking through traditional art education in the PK-12 curriculum (Kraehe, 2017). Due to high-stakes testing, the United States has nearly eliminated art education to focus on test preparation (Wexler, 2014).

As a key finding in this study, the strategies that cultivated self-efficacy and divergent thinking were differentiated and interdisciplinary learning when art education incorporated creative learning principles. After incorporating art

education lessons that were interdisciplinary and differentiated, students that initially had challenges began to cultivate self-efficacy and divergent thinking. Students who excelled at core disciplines did pose some challenges to cultivating divergent thinking and self-efficacy. It was essential for me to understand each instance before I addressed it. Depending on how I addressed each could either deter or cultivate student self-efficacy and divergent thinking. My observation appeared to be because these students were used to being given choices and having objective answers instead of making independent creative decisions.

As a result of this study, educational leaders should value teachers' perspectives as first-hand insight for research. Teachers should also be valued as agents of change when they implement an innovative curriculum that breaks away from the script of the traditional curriculum. It is essential to not get upset at a student if they are struggling, not understanding, or getting behind on a project. Each of these can occur for different reasons. The reflections were a big part of what lessons I created to identify and meet my students' needs. I constantly reevaluated, added, and eliminated lessons to meet my students' learning needs. I continually adapted my lessons depending on whether students understood or had trouble completing the project. As an art teacher, I analyzed different emerging classroom struggles to understand what connecting with students through art education means and how art education cultivates self-efficacy and divergent thinking.

APPENDIX A

GRADING RUBRIC

	Advanced +	2	Advanced	1.8	Proficient +	2	Proficient	1.3	Emerging +	1	Emerging	0
Creativity /Design	The project is completed well and detailed. Met constraints and designed dimensions correctly. Materials are creative and are appropriately used. Evidence of personal interpretation and creative expression.		Design looks like one of the examples given. The project is appropriate in dimensions. Good evidence of personal interpretation and creative expression		The project looks exactly like the example given. The dimensions and constraints were almost met. Some evidence of personal interpretation and creative expression		Did not meet the constraints or dimensions.		Attempted the project. The design is incomplete.		Did not do.	
20												
Elements of Art (EOA) Principles of Design (POD)	The project had an exceptional understanding and application of the EOA and POD.		Very good understanding and application of the EOA and POD.		Basic understanding or application of the EOA and POD		General understanding or application of the EOA and POD.		The design is incomplete.		Did not create.	
20												
Directions	The evidence of using directions, following instructions, and completed the project step-by-step.		Very good evidence of using directions, order of steps followed		Good evidence of following directions, few steps missed or mixed up the order		Little evidence of following directions, many steps missed and/or order mixed up		Almost no evidence of following directions, most steps missed and/or order not clear.		Did not create.	
20												
Craftsmanship	The project was completed neatly, clean, or has additional intentional details. There are no tears or folds.		There were few smudges or additional unintentional details. There are no fold lines or bends		There were some smudges or additional unintentional details. The design has fold lines, bends, or tears. The background has unintentional marks.		There were many smudges or additional unintentional details.		The design is incomplete.		Did not do.	
20												
Effort	Excellent use of class time, strong focus on project. The student went beyond the requirements to exceed expectations.		Very good use of class time and focus on project.		Good use of class time and focus on project		Acceptable use of class time, yet not fully attentive to project.		Not focused on task during class time.		Did not create.	
20												

APPENDIX B

INSTITUTIONAL REVIEW BOARD APPROVAL

March 28, 2022

CSUSB INSTITUTIONAL REVIEW BOARD
Final IRB Approval
IRB-FY2022-161
Status: Approved

Prof. Enrique Murillo Jr and Mr.Julian Rubalcaba
COE - Doctoral Studies, COE - TeacherEduc&Foundtn TEF
California State University, San Bernardino
5500 University Parkway
San Bernardino, California 92407

Dear Prof. Enrique Murillo Jr and Mr. Julian Rubalcaba:

The final application changes you submitted to your study, titled "Using Art Education to Cultivate Self-Efficacy and Divergent Thinking" has been reviewed and approved by the Chair of the Institutional Review Board (IRB). Please ensure your CITI Human Subjects Training is kept up-to-date and current throughout the study. A lapse in your approval may result in your not being able to use the data collected during the lapse in your approval.

Your study is approved as of March 28, 2022. Your study will require an annual administrative check- in report on or before March 28, 2023. If your study is completed before the study administrative check-in date , you can close your study by submitting the appropriate study closure form through the Cayuse IRB Human Ethics system. Please note additional requirements of your IRB approval below (see items 1 - 4).

This approval notice does not replace any departmental or additional campus approvals which may be required including access to CSUSB campus facilities and affiliate campuses. Investigators should consider the changing COVID-19 circumstances based on current CDC, California Department of Public Health, and campus guidance and submit appropriate protocol modifications to the IRB as needed. CSUSB campus and affiliate health screenings should be completed for all campus human research related activities. Human research activities conducted at off-campus sites should follow CDC, California Department of Public Health, and local guidance. See CSUSB's COVID-19 Prevention Plan for more information regarding campus requirements.

You are required to notify the IRB of the following by submitting the appropriate form (modification, unanticipated/adverse event, renewal, study closure) through the online Cayuse IRB Submission System.

1. If you need to make any changes/modifications to your protocol submit a modification form as the IRB must review all changes before implementing them in your study to ensure the degree of risk has not changed.
2. If any unanticipated adverse events are experienced by subjects during your research study or project.
3. If your study has not been completed submit a renewal to the IRB.
4. If you are no longer conducting the study or project submit a study closure.

You are required to keep copies of the informed consent forms and data for at least three years.

If you have any questions regarding the IRB decision, please contact Michael Gillespie, Research Compliance Officer. Mr. Gillespie can be reached by phone at (909) 537-7588, by fax at (909) 537-7028, or by email at mgillesp@csusb.edu. Please include your application approval number IRB-FY2022-161 in all correspondence.

Best of luck with your research.

Sincerely,

Nicole Dabbs

Nicole Dabbs, Ph.D, IRB Chair
CSUSB Institutional Review Board

ND/MG

REFERENCES

2018 Social Progress Index. (n.d.). 2018 Social Progress Index. Retrieved November 7, 2018, from https://www.socialprogress.org/

Acar, S., Burnett, C., & Cabra, J. F. (2017). Ingredients of Creativity: Originality and More. *Creativity Research Journal*, *29*(2), 133–144.

Adejumo, C. O. (2010). Promoting Artistic and Cultural Development Through Service Learning and Critical Pedagogy in a Low-Income Community Art Program. *Visual Arts Research*, *36*(1), 23–34.

Andreasen, N. C. (2005). *The Creating Brain: The Neuroscience of Genius*. Dana Press.

Apple, M. W. (1978). Ideology, Reproduction, and Educational Reform. *Comparative Education Review*, *22*(3), 367–387.

Armstrong, T. (2018). *Multiple Intelligences in the Classroom* (4th ed.). Association for Supervision and Curriculum Development.

Baker, D. (2013). Art Integration and Cognitive Development. *Journal for Learning Through the Arts*, *9*(1).

Baladehi, A. S., & Shirazi, A. (2016). Study of the Appropriate and Inappropriate Methods of Visual Arts Education in the Primary Schools According to the Types of Multiple Intelligences. *Journal of History, Culture & Art Research / Tarih Kültür ve Sanat Arastirmalari Dergisi*, *5*(4), 501–514.

Bandura, A. (1977). Self-efficacy: Toward a Unifying Theory of Behavioral Change. *Psychological Review*, *84*(2), 191–215.

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory*. Prentice-Hall.

Bandura, A. (2012). On the Functional Properties of Perceived Self-Efficacy Revisited. *Journal of Management*, *38*(1), 9–44.

Boehner, J. A. (2002, January 8). *H.R.1 - 107th Congress (2001-2002): No Child Left Behind Act of 2001* [Webpage].

Bourdieu, P. (1984). *Distinction: A Social Critique of the Judgement of Taste*. Harvard University Press.

Boyd, R. (2008). *Do People Only Use 10 Percent of Their Brains?* Scientific American.

Brosio, R. A. (1991). The Continuing Conflicts Between Capitalism and Democracy: Ramifications for Schooling Education. *Educational Philosophy and Theory*, *23*(2), 30–45.

Burnaford, G. E. (2001). *Renaissance in the Classroom: Arts Integration and Meaningful Learning*. LErlbaum Associates, LErlbaum.

Burns Gilchrist, S. (2016). Rediscovering Renaissance Research: Information Literacy Strategies for Success. *Portal: Libraries and the Academy*, *16*(1), 33–46.

CA Dept of Education. (2020). *CA Dept of Education*.

California Arts. (2014). *California Arts Standards—Content Standards (CA Dept of Education)*.

Campos-Holland, A., Hall, G., & Pol, G. (2016). Over-Tested Generation: Youth and Standardized-State Testing in a Racialized Educational Context. *Sociological Studies of Children & Youth*, *20*, 187–250.

Cevik, M. (2018). From STEM to STEAM in Ancient Age Architecture. *World Journal on Educational Technology: Current Issues*, *10*(4), 52–71.

Chapman, S. N. (2015). Arts Immersion: Using the Arts as a Language Across the Primary School Curriculum. *Australian Journal of Teacher Education*, *40*(40).

Chou, C.-Y., Lai, K. R., Chao, P.-Y., Tseng, S.-F., & Liao, T.-Y. (2018). A Negotiation-Based Adaptive Learning System for Regulating Help-Seeking Behaviors. *Computers & Education*, *126*, 115–128.

Christenson, S., Reschly, A. L., & Wylie, C. (2012). *Handbook of Research on Student Engagement*. Springer, Springer New York : Imprint: Springer.

Coffey, A. (1999). *The Ethnographic Self: Fieldwork and the Representation of Identity*. SAGE Publications.

Collins, A. (2016). Generalist Pre-Service Teacher Education, Self-Efficacy and Arts Education: An Impossible Expectation? *International Journal of Education & the Arts*, *17*(24–27), 1–24.

Common Core Institute. (2013). *A Guide for Using Webb's Depth of Knowledge with Common Core State Standards*. 24.

Common Core State Standards. (2020). https://www.cde.ca.gov/re/cc/

Community/Schools Partnership for the Arts: Collaboration, Politics, and Policy. (2001). *Arts Education Policy Review*, *102*(6), 3–11.

Creative Arts: Strengthening Academics and Building Community with Students At-Risk. (2006). *Reclaiming Children & Youth*, *14*(4), 223–227.

Creswell, J. W., & Guetterman, T. C. (2019). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research, 6th Edition - California State University, San Bernardino*.

Crompton, H., Burke, D., & Lin, Y.-C. (2019). Mobile Learning and Student Cognition: A Systematic Review of PK-12 Research Using Bloom's Taxonomy. *British Journal of Educational Technology*, *50*(2), 684–702.

Crosnoe, R., & Muller, C. (2014). Family Socioeconomic Status, Peers, and the Path to College. *Social Problems*, *61*(4), 602–624.

D'Acci, L. (2011). Measuring Well-Being and Progress. *Social Indicators Research*, *104*(1), 47–65.

Darder, A., Torres, R. D., & Baltodano, M. (2017). *The Critical Pedagogy Reader* (Third edition.). Routledge.

De Lissovoy, N. (2014). *Toward a New Common School Movement*. Paradigm Publishers.

Dewey, J. (1959). *Art as Experience.* Capricorn Books.

Dogan, U. (2015). Student Engagement, Academic Self-efficacy, and Academic Motivation as Predictors of Academic Performance. *The Anthropologist*, *20*(3), 553–561.

Du, X., & Chemi, T. (2017). *Arts-Based Methods in Education Around the World*. River Publishers.

Eagleman, D. (2019). *The Creative Brain | Home*. Black Balloon Publishing.

Ellis, C. (2004). *The Ethnographic I: A Methodological Novel About Autoethnography / Carolyn Ellis.* AltaMira Press.

Ellis, V. A. (2016). Introducing the Creative Learning Principles: Instructional Tasks Used to Promote Rhizomatic Learning through Creativity. *Clearing House: A Journal of Educational Strategies, Issues and Ideas*, *89*(4), 125–134.

Elmore, R. F. (1996). Getting to Scale with Good Educational Practice. *Harvard Educational Review*, *66*(1), 1–26.

Fletcher, E. C., Gordon, H. R. D., Asunda, P., & Zirkle, C. (2017). A 2015 Status Study of Career and Technical Education Programs in the United States. *Career and Technical Education Research*, *40*(3), 191–211.

Freire, P. (2000). *Pedagogy of the Oppressed* (30th anniversary ed.). Continuum.

Garcia, C., Jones, D., & Isaacson, C. (2015). Comparing State Mandated Test Scores for Students in Programs with and without Fine Arts in the Curriculum. *Journal of Case Studies in Education*, *7*.

Garcia, L. (2017). *La Lotería, Art Education and Creative Resistance: A Funds of Knowledge Approach to Art Education in Working-class Schools* [ProQuest Dissertations Publishing].

Gardner, H. (1999). *Intelligence Reframed: Multiple Intelligences for the 21st Century*. Basic Books.

Giroux, H. A. (1984). *Critical Theory and Educational Practice*. Deakin University.

Glesne, C. (2016). *Becoming Qualitative Researchers: An Introduction* (Fifth edition). Pearson.

Gordon, H. R. D. (2008). *The History and Growth of Career And Technical Education In America* (3rd ed.). Waveland Press.

Granello, D. H. (1999). The School to Work Opportunities Act and The Role of the School Counselor. *Professional School Counseling*, *3*(2), 108–116.

Grodsky, E., Warren, J. R., & Felts, E. (2008). Testing and Social Stratification in American Education. *Annual Review of Sociology*, *34*, 385–405.

Guo, L. (2014). Preparing Teachers to Educate for 21st Century Global Citizenship: Envisioning and Enacting. *Journal of Global Citizenship & Equity Education*, *4*(1).

Guyotte, K. W., Sochacka, N. W., Costantino, T. E., Kellam, N. N., & Walther, J. (2015). Collaborative Creativity in STEAM: Narratives of Art Education Students' Experiences in Transdisciplinary Spaces. *International Journal of Education & the Arts*, *16*(15).

Hamblen, K. A. (1984). An Art Criticism Questioning Strategy within the Framework of Bloom's Taxonomy. *Studies in Art Education*, *26*(1), 41–50.

Hardiman, M. (2017, October 4). The Arts Need to Be a Central Part of Schooling—Education Week. *Education Week*.

Hass-Cohen, N., Loya, N., Carr, R., Bridgham, T., Christian, D., Findlay, J. C., Galbraith, A., Kaplan, F., King-West, E., & Kravits, K. (2008). *Art Therapy and Clinical Neuroscience*. Jessica Kingsley Publishers.

Heilman, K. M. (2016). Possible Brain Mechanisms of Creativity. *Archives of Clinical Neuropsychology*, *31*(4), 285–296.

Hjorth, L., Burgess, J., & Richardson, I. (2012). *Studying Mobile Media: Cultural Technologies, Mobile Communication, and the iPhone*. Taylor & Francis Group.

Houtte, M. V., Demanet, J., & Stevens, P. A. (2012). Self-Esteem of Academic and Vocational Students: Does Within-School Tracking Sharpen the Difference? *Acta Sociologica*, *55*(1), 73–89.

Howley, C. B. (1990). *Cultural Contradictions and the Institutional Dilemma of Education in Capitalist America. (An Alternative View of School Effectiveness)*.

Issacson, W. (2017, January 7). *How Does Innovation Happen?* KQED.

Jarrett, C. (2015). *Great Myths of the Brain* (1st ed.). Wiley-Blackwell, John Wiley & Sons, Incorporated.

Kahn, R., & Kellner, D. (2005). Reconstructing Technoliteracy: A Multiple Literacies Approach. *E-Learning and Digital Media*, *2*(3), 238–251.

Kaimal, G., & Ray, K. (2017). Free Art-Making in an Art Therapy Open Studio: Changes an Affect and Self-Efficacy. *Arts & Health: International Journal for Research, Policy & Practice*, *9*(2), 154–167.

Kalat, J. W. (2019). *Biological psychology* (13th edition.). Cengage.

Kraehe, A. M. (2017). Arts Equity: A Praxis-Oriented Tale. *Studies in Art Education: A Journal of Issues and Research in Art Education*, *58*(4), 267–278.

Lawrence, R. L. (2009). Powerful Feelings: Exploring the Affective Domain of Informal and Arts-Based Learning. *New Directions for Adult and Continuing Education*, *2008*(120), 65–77.

Lee, P. C., & Mao, Z. (2016). The Relation Among Self-Efficacy, Learning Approaches, and Academic Performance: An Exploratory Study. *Journal of Teaching in Travel & Tourism*, *16*(3), 178–194.

Lee, & Wu, Y. (2017). Is the Common Core Racing America to the Top? Tracking Changes in State Standards, School Practices, and Student Achievement. *Education Policy Analysis Archives*, *25*(35).

Lipman, P. (2004). *High Stakes Education: Inequality, Globalization, And Urban School Reform*. RoutledgeFalmer.

Macdonald, J. (2018). Arts Belong in the Classroom: Empowering Teachers in Arts-Based Learning. *Australian Art Education*, *39*(1), 123–139.

Markovich, D. Y., & Rapoport, T. (2013). Creating Art, Creating Identity: Under-Privileged Pupils in Art Education Challenge Critical Pedagogy Practices. *International Journal of Education through Art*, *9*(1), 7–22.

Marshall, J. (2014). Transdisciplinarity and Art Integration: Toward a New Understanding of Art-Based Learning Across the Curriculum. *Studies in Art Education*, *55*(2), 104–127.

Marx, K. (1990). *Capital: A Critique of Political Economy*. Penguin Books in Association with New Left Review.

McCaslin, M. (2006). Student Motivational Dynamics in the Era of School Reform. *Elementary School Journal*, *106*(5), 479–491.

Meggs, P. B. (2012). *Meggs' History of Graphic Design* (5th ed.). John Wiley & Sons.

Moorefield-Lang, H. (2010). Arts Voices: Middle School Students and the Relationships of the Arts to their Motivation and Self-Efficacy. *The Qualitative Report*, *15*(1), 1–17.

Morgan, H. (2016). Relying on High-Stakes Standardized Tests to Evaluate Schools and Teachers: A Bad Idea. *The Clearing House*, *89*(2), 67–72.

National Art Education Association. (2001). *A National Survey: Secondary Art Education*. National Art Education Association.

National Art Education Association. (2014). *Purposes, Principles, and Standards for School Art Programs* (2014 edition.). The Association.

Natoli, R., & Zuhair, S. (2011). Measuring Progress: A Comparison of the GDP, HDI, GS and the RIE. *Social Indicators Research*, *103*(1), 33–56.

Newman, K., & Chin, M. (2003). High Stakes: Time Poverty, Testing, and the Children of the Working Poor. *Qualitative Sociology*, *26*(1), 3–34.

Oakes, J., & Saunders, M. (2008). *Beyond Tracking: Multiple Pathways to College, Career, and Civic Participation*. Harvard Education Press.

Office of Elementary and Secondary Education. (2019, February 25). [Offices; Indexes]. US Department of Education (ED).

Olivier, E., Archambault, I., Clercq, M., & Galand, B. (2019). Student Self-Efficacy, Classroom Engagement, and Academic Achievement: Comparing Three Theoretical Frameworks. *Journal of Youth and Adolescence*, *48*(2), 326–340.

Pate, S. K. (2016). The Social Progress Index in International Business Site Selection: Three Case Studies. *Journal of International Education and Leadership*, *6*(2).

Perignat, E., & Katz-Buonincontro, J. (2018). From STEM to STEAM: Using Brain-Compatible Strategies to Integrate the Arts,. *Arts Education Policy Review*, *119*(2), 107–110.

Project Zero. (2020). http://www.pz.harvard.edu/

Puente-Díaz, R., & Cavazos-Arroyo, J. (2017). Creative Self-Efficacy: The Role of Self-Regulation for Schoolwork and Boredom as Antecedents, and Divergent Thinking as a Consequence. *Social Psychology of Education: An International Journal*, *20*(2), 347–359.

Qian, M., & Plucker, J. A. (2018). Looking for Renaissance People: Examining Domain Specificity-Generality of Creativity Using Item Response Theory Models. *Creativity Research Journal*, *30*(3), 241–248.

Reardon, S. F., Kalogrides, D., & Shores, K. (2019). The Geography of Racial/Ethnic Test Score Gaps. *American Journal of Sociology*, *124*(4), 1164–1222.

Reich, R. B. (2013). *Aftershock: The Next Economy and America's Future* (2013 Vintage books ed.; Vintage Books.

Reich, R. B. (2015). *Saving Capitalism: For the Many, Not the Few* (First edition.). Alfred AKnopf.

Reichelt, M., Collischon, M., & Eberl, A. (2019). School Tracking and Its Role in Social Reproduction: Reinforcing Educational Inheritance and the Direct Effects of Social Origin. *British Journal of Sociology*, *70*(4), 1323–1349.

Renaissance. (2015, October 6). The Renaissance – Why It Changed The World. *The Telegraph*.

Renner, E. (2016). *The Beginning of Life*. Maria Farinha Filmes.

Robinson, H. (2013). Arts Integration and the Success of Disadvantaged Students: A Research Evaluation. *Arts Education Policy Review*, *114*(4), 191–204.

Robinson, K. (2017). *Out of Our Minds: The Power of Being Creative* (Third edition, fully updated.). Capstone.

Sackett, P. R., Kuncel, N. R., Beatty, A. S., Rigdon, J. L., Shen, W., & Kiger, T. B. (2012). The Role of Socioeconomic Status in SAT-Grade Relationships and in College Admissions Decisions. *Psychological Science*, *23*(9), 1000–1007.

Saldaña, J. (2016). *The Coding Manual for Qualitative Researchers* (3E [Third edition].). SAGE.

Salehi Baladehi, A., & Shirazi, A. (2017). Study of the Appropriate and Inappropriate Methods of Visual Arts Education in the Primary Schools According to the Types of Multiple Intelligences. *Journal of History Culture and Art Research*, *5*, 501.

Schaff, P. (1891). The Renaissance: The Revival of Learning and Art in the Fourteenth and Fifteenth Centuries. *Papers of the American Society of Church History*, *3*, 3–132.

Schniedewind, N., & Tanis, B. (2017). Learning from Parents of Color in the Effort to Preserve Multicultural & Public Education. *Multicultural Education*, *25*(1), 29–33.

Seiler, N. (2003). Identifying Racial Privilege: Lessons from Critical Race Theory and the Law. *The American Journal of Bioethics*, *3*(2), 24–25.

Shapiro, J. P., & Hassinger, R. E. (2008). Using Case Studies of Ethical Dilemmas for the Development of Moral Literacy: Towards Educating for Social Justice. *Journal of Educational Administration*, *45*(4), 451–470.

Simmons, S. (2001). Multiple Intelligences at the Middle Level: Models for Learning in Art and Across the Disciplines. *Art Education*, *54*(3), 18–24. JSTOR.

Smyth, T. S. (2008). Who Is No Child Left Behind Leaving Behind? *Clearing House: A Journal of Educational Strategies, Issues and Ideas*, *81*(3), 133–137.

Solórzano, D. G., & Bernal, D. D. (2001). Examining Transformational Resistance Through a Critical Race and Latcrit Theory Framework: Chicana and Chicano Students in an Urban Context. *Urban Education*, *36*(3), 308–342.

Solórzano, D. G., & Yosso, T. J. (2002). Critical Race Methodology: Counter-Storytelling as an Analytical Framework for Education Research. *Qualitative Inquiry*, *8*(1), 23–44.

Sowden, P. T., Clements, L., Redlich, C., & Lewis, C. (2015). Improvisation Facilitates Divergent Thinking and Creativity: Realizing a Benefit of Primary School Arts Education. *Psychology of Aesthetics, Creativity, and the Arts*, *9*(2), 128–138.

Standardized Tests. (2019). *History of Standardized Tests—Standardized Tests—ProCon.org*.

Tamilselvi, B., & Geetha, D. (2015). Efficacy in Teaching through “Multiple Intelligence” Instructional Strategies. *Journal on School Educational Technology*, *11*(2), 1–10.

Teel, K. M. (2001). *Making School Count: Promoting Urban Student Motivation And Success*. Routledge, RoutledgeFalmer.

Thompson, K. D. (2015). *Questioning the Long-Term English Learner Label: How Categorization Can Blind Us to Students' Abilities.* (Vol. 117). Teachers College Record.

Townley, A. J., & Schmieder, J. (2010). *School Law: A California Perspective*. Kendall/Hunt Publishing Company.

Trevarthen, C. (2011). What Is It Like to Be a Person Who Knows Nothing? Defining the Active Intersubjective Mind of a Newborn Human Being. *Infant and Child Development*, *20*(1), 119–135.

Wexler, A. (2014). Reaching Higher? The Impact of the Common Core State Standards on the Visual Arts, Poverty, and Disabilities. *Arts Education Policy Review*, *115*(2), 52–61.

Whitmire K & Beck J. (2010). Lessons from The Renaissance: The Power of Multiple Knowledge Bases. *Topics in Language Disorders*, *30*(1), 57–64.

Whole Brain Learning: The Fine Arts with Students at Risk. (2006). *HEARTS Program*, *15*(1), 24–31.

Winders, J., & Smith, B. E. (2019). Social Reproduction and Capitalist Production: A Genealogy of Dominant Imaginaries. *Progress in Human Geography*, *43*(5), 871–890.

Yi, X., Plucker, J. A., & Guo, J. (2015). Modeling Influences on Divergent Thinking and Artistic Creativity. *Thinking Skills and Creativity*, *16*, 62–68.

Zalaquett, C. P., & Chatters, S. J. (2012). Middle School Principals' Perceptions of Middle School Counselors' Roles and Functions. *American Secondary Education*, *40*(2), 89–104.