



Authentic Learning, Self-Efficacy, and the Self-Directed Art Student

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A Thesis Submitted in Partial Fulfillment of

The Requirements for the Degree

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Master of Education

Educational Program Design

May 14, 2019

### Abstract

This study examines relationships between increased opportunity for authentic learning experiences, self-efficacy levels, and self-directed learning behaviors. The research questions examined relationships between authentic learning and self-efficacy, authentic learning and the prevalence of self-directed learning behaviors, and the relationship between self-efficacy and the prevalence of self-directed learning behaviors. The participants of this study were from a socioeconomically diverse public high school's introductory level art class taught by the teacher/researcher. The method of this action research was to incrementally increase opportunities for authentic learning experiences while documenting self-directed learning behaviors from both teacher observation and student self-reported checklists along with student self-efficacy surveys. Overall results between self-directed learning behaviors and self-efficacy data are inconclusive, although significant findings indicate a relationship between self-directed learning, increased autonomy and accountability in the creative process, and self-efficacy levels. There is positive potential for future studies related to skill practice, self-directed learning, autonomy, and self-efficacy in art education as a result of this research.

### **Dedication and Acknowledgements**

For intentional and accidental art students and art educators. And with immense gratitude to my teachers past and present who have shared their practice and informed my teaching.

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## Authentic Learning, Self-Efficacy, and the Self-Directed Art Student

### Chapter 1: Introduction

#### Background

At the high school where I teach, introductory art classes are extremely diverse. Not only is the school socioeconomically diverse, but these Level 1 art classes are comprised of students from grades 9 through 12. Although art is an elective, students enrolled in these introductory level, Art 1 classes at this public high school may not express an interest in learning art, but rather, are required to select from a limited choice of electives. Classes are often comprised of students that express disinterest in art, students that express that art should only be fun and not actual learning, and those students that express an interest in learning about art and developing their own abilities. Likely because of this diverse group of students, an Art 1 class typically requires frequent intervention to address distracted or disruptive behaviors while keeping students engaged in the subject and their own work.

While there are many reasons for distraction or disruptions, students are often distracted by the availability of technology for personal use even though this high school has one-to-one technology using iPads for education. Students frequently come to class struggling with personal and social concerns that require immediate attention. Depending on group dynamics, numerous interventions may be needed to mediate verbal altercations during a single class period. Disruptions to teacher-led instruction and demonstrations have become increasingly common and frequent redirection is routine. It has been my experience that reluctant students who express little to no interest in the subject of art either don't complete their work or are more likely to rush through an assignment just to get it done; not engaging in the activities that benefit

their development. Morris, Lummis, and Lock (2017) found that in order for students to be cognitively engaged, factors such as intrinsic motivation, autonomy, metacognition, and task relatedness were essential contributing factors in their art education study. The purpose of this study is to increase student engagement through authentic learning experiences and develop more self-directed learning behaviors.

### **Problem Statement**

In recent years, I have observed that my introductory level high school art students are not self-directed. As a result, they are not engaged in the classroom and are not getting the benefits an arts education can provide. A significant benefit of an arts education is the development of imaginative thinking that can build confidence, increase motivation, and foster self-directed learning practices (Fleming, Gibson, Anderson, Martin, & Sudmalis, 2016) which can be applied to all aspects of an individual's life.

An arts education can develop imaginative thinking leading to increased confidence, agency, and success in future creative work (Fleming et al., 2016) if students are cognitively engaged and essential factors that contribute to motivation are present (Morris et al., 2017). Morris et al. (2017) determined the three factors in cognitive engagement to be intrinsic motivation, autonomy, and metacognition, but found that task relatedness was an essential contributor to motivation. In the current study, I will use authentic learning opportunities as a means to increase factors essential to engagement. Given the numerous reasons why students in my Art 1 classes may lack motivation, getting them to focus on their work and remain on task is challenging. My students frequently request teacher assistance instead of first trying to find solutions independently by applying problem solving techniques. Rather than utilizing

experimentation, many students will idly wait or call repeatedly for help as the teacher assists other students. For a large percentage of students in the introductory art classes, this is a regular occurrence and it is not practical or efficient when trying to assist all students in a timely manner. Moreover, students that may have tendencies to give up easily or engage in distracting or disruptive behaviors are more likely to do so (Ackerman, 2018) rather than utilize resources or attempt to problem solve on their own.

I want my students to be more self-directed in their art learning practices, so that they can develop the imaginative thinking that is so important in later life. For the purpose of this study, students that are self-directed try to problem-solve before asking for teacher assistance or while waiting for teacher assistance. Self-directed learners know how and where to find resources available to help answer their questions and supplement their learning utilizing digital tools and technology. Additionally, for the purpose of this study, self-directed learners seek peer advice, offer each other feedback, and engage in the creative process through experimentation, practice, and inquiry. Students who are taught self-directed learning skills are better prepared for meeting future challenges (Boyer, 2013) and may find greater success in school by adjusting to their own learning needs (Zimmerman, 2002). A student who is struggling with how to create a desired effect with the art medium they are using is more likely to engage in non educational activities on personal devices while waiting for the teacher's assistance. A self-directed art student might try different media application methods on scrap paper while waiting and may come to the realization that assistance was not needed because a solution was found through experimentation, thus enhancing that student's creative problem solving abilities.



I proposed that by increasing authentic learning experiences, students would be more engaged in developing their art skills and would build creative thinking skills. Authentic experiences that involve practicing a skill or technique allow students to become more familiar with the medium and allow students to explore approaches to application and make mistakes without the pressure of producing a product for assessment. Mastery experiences are also gained through the practice of new skills or for improved performances and this practice teaches capability (Ackerman, 2018). According to Albert Bandura, mastery experience is a source of self-efficacy (Ackermann, 2018). Guiding skill development while offering more opportunities for autonomy and metacognition through authentic learning experiences may lead students to more creative thinking and creative thinkers are often self-directed. In this study, I examined whether or not increased authentic learning experiences impacted self-efficacy levels and increased self-directed learning practices.

### **Significance**

This action research focuses on students from an introductory level high school art class within a socioeconomically diverse community. Many students face significant challenges outside of school that impact their learning and behavior. This research addresses a gap in literature as similar studies in art education have mostly been conducted in socio-educationally advantaged (Morris et al., 2017) schools or arts-focused programs (Burkitt & Lowry, 2015, Fleming et al., 2016). Other studies have specifically addressed self-efficacy in schools with disadvantaged students (Wang, Tan, Li, Tan, & Lim, 2017), but not in art education.

If evidence from this study shows that increasing authentic learning activities results in greater self-directed learning behaviors and students gain positive self-efficacy levels related to

achievement of tasks, then the impact on those individuals could be great. If students develop greater self-directed learning behaviors, not only would this improve future learning in art, it could be transferable to whatever field of study or activity the student chose to apply these skills. If a student gains positive self-efficacy, this would likely improve future performance in art and again, would be transferable to any aspect of the student's life he or she chooses if the student recognizes their ability to impact their own learning (Greene, 1971).

If evidence from this study does support a positive connection between increased authentic learning and self-directed behaviors and/or positive self-efficacy, then this information could be used to inform future teaching practices in introductory art class level and beyond. If the evidence does not show a connection between increased authentic learning and self-directed learning behaviors and positive self-efficacy, then more research may be needed in these areas.

### **Research Questions**

This study examines whether or not increasing authentic learning experiences in the high school introductory art classroom improves self-efficacy and leads to greater self-direction in students' approaches to art learning.

#### **Specific research questions.**

- What is the relationship between authentic learning experiences and student self-efficacy? Over the course of this study, authentic learning experiences were progressively increased as self-efficacy surveys were distributed to participating students.
- What is the relationship between authentic learning experiences and the prevalence of self-directed behaviors? As authentic learning experiences were increased, the teacher observed students' independent work for each lesson and marked an observation chart of

predetermined self-directed behaviors. At the end of each lesson throughout this study, students completed a self-reflection checklist of their learning behaviors.

- What is the relationship between the student self-efficacy and the prevalence of self-directed behavior? The researcher examined and compared the data collected from the self-efficacy surveys, the teacher observations of self-directed behaviors, and the student self-reflection checklists of learning behaviors.

### **Research Design**

In this quantitative research project, I would collect and compare data from three sources. First, I (the researcher/teacher) would collect data from observation using a checklist of criteria previously defined as specific observable self-directed learning behaviors. Secondly, I would collect data by administering an online self-efficacy survey (see Appendix F) constructed by Gaumer Erickson, et al., (2018). Thirdly, I would collect data from student self-reflection checklists administered toward the end of lesson subunits (see Figure 5: Criteria for Student Checklists). The data would be collected before, during, and at the end of this four week long study while authentic learning activities were progressively increased.

The criteria of self-directed learning behaviors used for teacher observation were determined by characteristics commonly found in prior research (Bartel, 2012; Hathaway, 2012; Hetland, 2012; Jaquith, 2012; Sesto, 2012) and include observable evidence of students experimenting, solving problems, and expressing curiosity (see Figure 3: Teacher Observation Chart). The predetermined criteria for this research also emphasizes the importance of practice as significant to the self-directed learner (Ackerman, 2018; Bartel, 2012). I used similar criteria to formulate the students' self-reflection checklist, but added the categories "rushing through the

process in order to complete,” and “asked the teacher for help” (see Figure 5). The former being a non self-directed learning behavior will offer students an opportunity to reflect on their pacing and effort. “Asking a teacher for help” category is intended to gather information on whether or not a student is applying other methods of problem solving rather than relying only on the teacher’s assistance.

Notably, prior to this study, students have received instruction in drawing skills which included using accurate proportions and using a grid to draw from a photo resource, incorporating light effects, shading, value scales and gradation. Students were also instructed in drawing geometric forms, and creating spatial and depth relationships in their drawing. This research study will take place during the color theory unit of the curriculum.

### **Definition of Terms**

The following terms are explained for specific use in this study and are operationalized in relation to their application in this study.

**Self-efficacy.** Self-efficacy refers to an individual’s belief in their own ability to achieve specific goals (Bandura, 2006).

**Authentic learning.** Authentic Learning occurs when the perception that the educational activities are valuable to the learner and are understood as significant to the learning process. For the purpose of this study, authentic learning will result when students make connections between what they have learned, how it can be applied to further develop their skills, and achieve future desired results.

**Self-directed learning.** Self-directed learning is seen in individual learners that are aware of their own need and initiate goals and strategies to attain and measure their success in that learning in order to attain their desired result (Boyer, 2013).

**Art 1.** Art 1 is the introductory level art course offered at the high school where the focus of the research is taking place. This introductory level course is open to all students from grades 9 through 12 and is a prerequisite course for most other art courses offered at this high school.

**One-to-one.** One-to-one refers to individual technology devices per student. The students at this high school have been issued individual iPad devices for their educational use in and out of school. The devices remain in the students possession throughout the school year but students are required to return the devices at the end of each school year.

**Reluctant students.** Reluctant students refer to students that may struggle or resist learning under what may be characterized as general classroom learning environments. These students may have obstacles that prevent them from being able to or wanting to learn within generally accepted classroom routines and expectations.

## **Chapter 2: Literature Review**

### **Introduction**

This chapter provides a review and analysis of literature focused on self-directed learning, self-efficacy and authentic learning. I see the relationship between self-directed learning, self-efficacy, and authentic learning as interconnected, but not necessarily reliant upon one another. There are similarities, overlapping characteristics, and transferable qualities. For the purpose of this study, Self-Directed Learning can be authentic learning but not all Authentic Learning is self-directed (see Figure 1). With this in mind, the goal of this research is to increase self-directed learning behaviors within the art room. I believe there is a strong relationship between student self-efficacy and the ability of that student to engage in either self-directed learning or authentic learning (Ackerman, 2018; Bandura, 2012; Morris, 2018). I believe that a student would benefit most when the student perceives value in the learning, believes in their own ability, and knows how to achieve the desired success; in other words when all three of these concepts, self-directed learning, authentic learning, and self-efficacy overlap. My approach to this study is through increasing opportunities for authentic learning and examining whether or not this also influences self-efficacy among these introductory level art students.

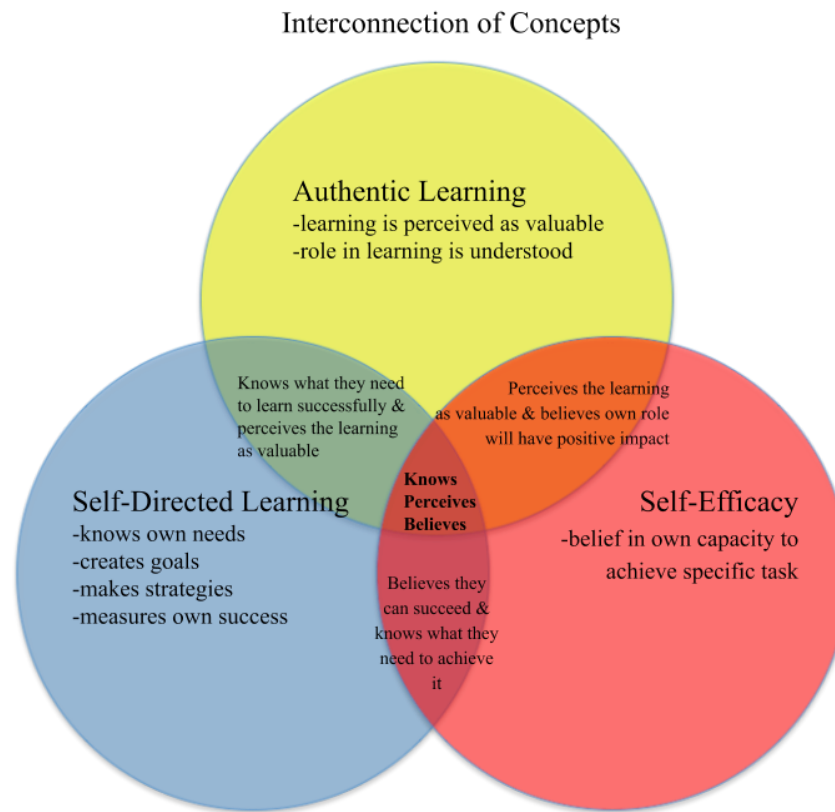


Figure 1

### Self-Directed Learning

Self-directed learning skills are important in the educational development of an individual and for successful careers (Boyer, 2013; Zimmerman, 2002). I would like my art students to be more self-directed in the art room so that they can engage in the creative process and benefit from imaginative thinking both in the classroom and throughout their lives.

**What is self-directed learning?** Self-directed learning is individually initiated learning where out of awareness of need, the learner sets goals and undertakes specific strategies to attain and measure their success of that learning (Boyer, 2013). This type of individualized learning

allows students to work at their own pace where students may set higher goals for themselves and show ownership in achieving them (Boyer, 2013). Zimmerman (2002) describes similar metacognitive skills using the term ‘self-regulated learning.’ Self-regulated learning is a proactive, self-directed process that transforms self-awareness into academic skills (Zimmerman, 2002). Throughout this research, I will consider self-directed learning and self-regulated learning as one ideology; Boyer (2013) focuses on its benefits for the adult learner where Zimmerman (2002) emphasizes its importance for student success. Students who are taught self-directed learning skills are better prepared for meeting the challenges and demands of a career (Boyer, 2013). Self-regulated learning leads to greater success in school and enables students to adjust their own learning needs (Zimmerman, 2002). They learn how to acquire knowledge and skills as they see important for success in their fields (Boyer, 2013).

**Why is it important for people to be self-directed learners?** When individuals monitor their learning in relation to their goals, they can assess for effectiveness (Zimmerman, 2002). Motivation for further self-improvement increases with success and individuals are more likely to succeed academically with more optimistic views of their future (Zimmerman, 2002). Knowing how to acquire knowledge and skills is important for success in chosen fields (Boyer, 2013) and self-directed learners likely become lifelong learners which can lead to career promotions and personal life satisfaction (Zimmerman, 2002).

**Why is it important for art students to become self-directed learners?** Students that are self-directed in the art classroom first understand art from personal experience then they are able to make connections and find relationships with the outside art world (Hathaway, 2012). Self-directed art learners use skills, techniques, and attitudes about art similar to the way artists



do (Hathaway, 2012). Autonomy along with practice towards mastery and with purpose leads to discovery, builds awareness, and allows students to learn from their mistakes (Bartel, 2012).

Self-directed learning is fostered in choice-based art rooms. Sesto (2012) describes a Montessori choice-based art room arranged with areas or centers of different media for students to use. An art teacher would offer a lesson on a specific technique or introduce a new medium, and after the lesson, students would be free to choose to practice that lesson with more teacher instruction or select which center they were interested in working as the teacher moves about the center assisting individual or small groups of students (Sesto, 2012). Students may ask for individual instruction or request assistance with specific tasks (Sesto, 2012). Sesto (2012) described an example where a challenge of inventing a stand for a paper boat was offered and voluntarily accepted by a third grade boy who then designed and constructed a balanced wooden stick stand independently by the end of the class session showing self-confidence, use of creative thinking skills, and ability to spatially visualize and determine when the work was complete. The student was also able to describe to his peers the steps of his process (Sesto, 2012).

This self-directed learning model represents Zimmerman's (2002) idea that motivation comes from the self-regulatory process and its effects on self-beliefs rather than on the task itself. If I apply Zimmerman's (2002) ideology to Sesto's (2002) student, the Montessori choice-based art learning method nurtured this student's self-regulatory practice and he was motivated to invent and create because of his own self-beliefs that led to discovery learning. Encouraging students to work from their original ideas helps develop their inner voice and learning through creating can be a joyous experience for both artists and students (Sesto, 2012).

**What does self-directed learning look like in the art classroom?** Examples of self-directed learning in the art classroom can be found in the book, *The Learner Directed Classroom* (2012) described as learner-directed studio settings. These choice-based art programs foster engagement through individualized inquiry-based learning that supports students' strengths (Hathaway, 2012). Self-directed learning affords students opportunities to inquire, think divergently, and engage in personally relevant work (Jaquith, 2012). The learner-directed studio setting resembles how a practicing artist creates (Hathaway, 2012). Rather than teacher-assigned projects, the student defines the project while the teacher acts as a facilitator or mentor supporting the needs and interests of the student as they identify problems and ideas, select materials and methods, practice and improve their work, and assess its effectiveness (Hathaway, 2012). For the purpose of this research, educational activities that are personally valuable are indicative to authentic learning. As part of the choice-based studio learning process, authentic content occurs through student inquiry and learning becomes personal and powerful (Hathaway, 2012).

These choice-based art programs are similar to the Self-Directed Learning (SDL) project described in Boyer's (2013) research study, where students develop their future resume, create strategies that they would need to achieve the project, then monitor and assess their own progress. The ownership of learning is with the student and educators look for evidence in the student work that demonstrates growth in critical thinking, creativity, and knowledge (Jaquith, 2012). This looks different for different art classrooms and different age levels. One elementary choice-based studio art teacher uses observation and describes what a student knows and does not know using the eight categories (or habits) of Studio Habits of Mind to analyze where she

will encourage the student from there (Hetland, 2012). Bartel (2012), on the other hand, places significance on questions that bring out creative strategies and a practice routine that assists in developing mastery of media skills. He seeks to establish an art classroom culture that builds student ability and confidence through practice routines and reflections (Bartel, 2012).

Autonomy along with mastery adjusted to individual needs and abilities, purposeful creation, and recognition are used together to elicit motivation to learn, innovate, and create (Bartel, 2012).

### **Self-Efficacy**

Self-efficacy plays an important role in engagement and is influenced by prior achievement in specific areas (Morris, 2018). Students with higher levels of self-efficacy tend to engage more and try harder when faced with challenges (Ackerman, 2018). In my research, I will exam the collected data for relationships between self-efficacy and self-directed learning when opportunities for authentic learning has been increased (see Figure 1).

**What is self-efficacy?** Self-efficacy refers to an individual's belief in their own ability to achieve specific goals (Bandura, 2004). Although self-efficacy is related to, may influence, or be influenced by other constructs, such as self-esteem or self-regulation, (Ackerman, 2018) it can be distinguished by belief in one's capability (Bandura, 2004). Bandura, commonly known as the father of self-efficacy, understood self-efficacy to influence various behaviors related to copying and goal attainment (Ackerman, 2018; Bandura, 2004). People with high levels of self-efficacy tend to show high degrees of achievement or accomplishment and students who believe they will succeed are more likely to try and to be engaged regardless of the subject (Ackerman, 2018).

**What contributes to self-efficacy?** Bandura describes four main sources that contribute to positive or increased self-efficacy: "mastery experiences, vicarious experiences, verbal

persuasion and, physiological and emotional states” (Ackerman, 2018). Mastery experiences are gained through practice of new skills or for improved performance and this practice teaches capability (Ackerman, 2018). According to Wang, Tan, Li, Tan, and Lim, (2017), “Mastery experiences provide the most influential source of efficacy information because they are based on individual’s authentic experiences.” (Wang et al., 2017, p.140). Students can gain confidence in their ability to take on challenges when they begin to learn that their own effort can have a positive effect on their academic success (Gaumer Erickson, Soukup, Noonan, & McGurn, 2018). Role models, like teachers, support high self-efficacy through vicarious experiences (Ackerman, 2018). As such, teacher self-efficacy plays an important role in their students’ success as well (Wang et al., 2017). Teacher’s confidence in their content area along with their perception of respect from students, parents, colleagues, and their administrators is influential on their support of positive student self-efficacy (Wang et al., 2017). Likewise, teachers with insight into students’ perception of their abilities can adapt instruction to motivate students to attain success (Gaumer Erickson et al., 2018). Even positive encouragement can support healthy self-efficacy through verbal persuasion (Ackerman, 2018). Healthy emotional and physiological states are another factor that contributes to self-efficacy (Ackerman, 2018). Physical, emotional, and psychological health play an important part in a student’s success, but can also affect the teacher’s ability to be a positive role model and affect student confidence in their ability to achieve in that class (Wang et al., 2017). Ackerman (2018) supports Albert Bandura’s four sources of self-efficacy: mastery practice, emulating positive role-models, and positive encouragement, and applies them to six components of teaching instruction, adapting education

to individual needs, motivating students, keeping discipline, cooperating with parents and colleagues, and coping with challenges and changes.

Morris (2018) studied relationships between student art consumption outside of school and their engagement in responding to visual arts curriculum. The study found an increase in both intrinsic motivation and self-efficacy when students read about art, attended art exhibits, and when families had original art within their home (Morris, 2018). When student attendance at art exhibitions increased so did their self-efficacy in responding to visual art, indicating that these activities likely help build mastery by practicing responding within real world experiences (Morris, 2018). The Morris (2018) study suggests that art consumption (reading about art, attending art exhibitions, and original artwork within their home) builds self-belief in their ability to respond to visual art in school.

The significance of student self-belief can be both supported and influenced by the teacher's self-efficacy. Wang et al. (2017) found that factors contributing to teachers with high efficacy who taught low-achieving students in Singapore included positive rapport with students and the students' perception of their teachers as genuine. Ackerman (2018) describes that teachers with a high level of self-efficacy towards teaching tend to believe in their own ability to instruct effectively, adapt their teaching to the individual needs of their students, and keep those students motivated in classroom learning. Teacher self-efficacy is related to student self-efficacy; in general, high levels of teacher self-efficacy positively support higher self-efficacy in their students (Ackerman, 2018).

**Why is self-efficacy important?** High self-efficacy is important because it fosters incentives to achieve, affects aspirations, and supports optimism contributing to a healthy society

(Bandura, 2006). Students' levels of aspiration are related to their achievement level (Hodis, Johnston, Meyer, McClure, Hodis, & Starkey, 2015). Students with a higher level of self-efficacy tend to overcome challenges when faced with problem solving (Morris, 2018). Wang, Tan, and Dairianathan (2018), found that student participants in their study showed higher levels of motivation in the area of their specialty, but also highly believed that if they put in enough effort and practice in their non specialty areas, they would achieve a higher level of ability (Gaumer Erickson et al., 2018).

Students with a lower level of self-efficacy have a tendency to be anxious around learning situations and may disengage without successful experiences (Morris, 2018). However, students that struggle in specific academic areas tend to benefit from a learning environment that supports positive self-efficacy (Ackerman, 2018). Those struggling learners are more likely to become enthusiastic and dedicated to learning when they experience even small levels of accomplishment (Ackerman, 2018). Motivation and self-efficacy are interconnected with engagement and if a student who was highly motivated in a specific subject does not reach mastery because of negative experiences, that student's self-efficacy could lower and consequently lead to future disengagement in that same subject (Morris, 2018). Conversely, a student may start out with low self-efficacy and low motivation toward a subject, but through repeated successes leading to mastery, that student could gain higher self-efficacy towards future learning in that subject (Morris, 2018).

Morris, Lummis, and Lock (2017) found that relatedness was essential in perceived importance for motivation linked to cognitive engagement. This study found that students who were deeply motivated in the area of art learning but were unwilling to pursue visual arts as a

career had low motivation for responding to visual arts curriculum (Morris et al., 2017).

According to Morris et al. (2017), when students believed they could not excel at a task such as content knowledge of visual art responding, their self-efficacy and motivation level decreased.

**Does Self-Efficacy lead to Self-Directed Learning?** Self-efficacy and intrinsic interest do affect the motivation of self-regulated learners (Zimmerman, 2002). Motivated self-regulated learners commit to practice with interest and embrace discovery of new ways to self-improve (Zimmerman, 2002). Driven by discovery and awareness, self-initiated projects derive from practice and mastery; that mastery supports self-efficacy because it teaches capability (Ackerman, 2018; Bartel, 2012). Similarly, Boyer (2013) found that self-directed learning likely improves self-efficacy; students in the SDL study noted increases in confidence and ability.

Employees with high self-efficacy can meet challenges and establish goals related to their careers and employment within an organization (Boyer, 2013). Boyer (2013) describes Bandura's social learning theory and the influence observing actions in others has in shaping and developing confidence in one's own ability. Employees need high levels of self-efficacy in order to meet the challenges and demands within an organization (Boyer, 2013). People with high self-efficacy in one task may believe in their capability to succeed in other tasks (Boyer, 2013). Although students demonstrated highest levels of motivation in areas of their specialty, by applying successful strategies from the specialty area to different areas of study may increase motivation and elicit self-efficacy (Wang et al., 2018). Also, students that set specific goals had greater achievement and higher self-efficacy that will likely prepare them to be aware of personal needs required to learn successfully (Zimmerman, 2002).

Since Boyer (2013) found that self-directed learning likely increases self-efficacy, and Zimmerman (2002) has determined that self-efficacy impacts the motivation of self-regulated learners, it is my understanding that students that have higher levels of self-efficacy tend to be more self-directed in the classroom. My question is then how would I support students with low self-efficacy who tend to be less self-directed in the art room to gain mastery in skills that would likely increase their belief in their capability towards art creation and foster greater self-direction in their art practices? Bartel suggests, “The innate desire for mastery motivates self-learning when the difficulty is reasonable and the goal is perceived to have value to the learner” (Bartel, 2012, p.135). Practice could offer students multiple opportunities for small incremental successes and if students recognize increases in their own skill they may seek continued engagement, further success, and greater self-direction (Ackerman, 2018; Bartel, 2012).

### **Authentic Learning**

Recognizing that individual student perception is key in determining authentic learning, I want to offer my students significant opportunities for authentic learning to occur. In this study, “authentic learning activities” are promoted through choice-based, bridge-building, metacognitive, and self-reflection activities along with scaffolded learning. If the learning is valuable to the learner, that student is more likely to be engaged (Morris et al., 2017). When students are engaged, they are more likely to practice towards mastery and be self-directed (Bartel, 2012) (see Figure 1 for Self-Efficacy and Self-Directed Learning).

**What is Authentic Learning?** For the purpose of this study, authentic learning occurs when the perception that the educational activities are valuable to the learner and are understood as significant to the learning process. I have become increasingly interested in the authenticity of



the learning experience and regard its origins but not its approaches back to 20<sup>th</sup> century education philosophers such as John Dewey and Maxine Greene. Dewey believed that the school's educational focus should support the child's natural inclination or tendencies toward specific interests rather than externally impose content for learning (Dewey, 1929). Maxine Greene espoused that the students' views either impede or inform their learning and students' willingness to both recognize their own perspective and make a commitment to their learning was essential (Greene, 1971). Therefore, I understand this to support that truly authentic learning must not only be perceived by the student to be personally valuable but that the student must also recognize their own impact in pursuing and increasing their own learning.

**Does Authentic Learning lead to higher Self-Efficacy?** I believe that students who perceive their learning experiences as valuable are more likely to engage in that learning. Learners are already active participants that control their own learning (Milbrandt, Felts, Richards, & Abghari, 2004). Therefore, Milbrandt et al. (2004) surmises that when students engage in the responsibility of learning through shared decision making and teaching each other, motivation, student ownership of learning, and achievement increases (Milbrandt et al., 2004). Under this condition, I would gather that the significance of their learning relative to their learning process is understood and that students would likely make connections beyond a unit of study or a course. Students surpassed expectations of depth and commitment in this student-driven study resulting in work that expressed higher levels of critical thinking and greater investment in their own learning (Milbrandt et al., 2004). Considering these students displayed significant engagement to their own learning process, self-efficacy is linked with psychological engagement (Morris, 2018).

Given the definition of authentic learning for the purposes of this study, I believe self-directed learning is a form of authentic learning. According to self-directed learning practices, students would need to identify and set a goal that is relevant to what they would like to achieve (Boyer, 2013; Zimmerman, 2002). It is my understanding that the actualization of this educational goal is authentic in nature. In the process of self-directed learning, students would then create strategies for achieving these goals, then monitor and measure their success (Boyer, 2013; Zimmerman, 2002). “Authentic assessment thus makes the development of the student’s content and achievement standards the ultimate goal in the instructional program” (Dorn, Madeja, & Sabal, 2004, p.86). Dorn et al. (2004) identifies an authentic assessment as one that involves the students in tasks that are valuable, significant, and meaningful. Dorn et al. (2004) also explains that a priority of authentic assessment practices should be in making the most of students’ strengths and helping them to set their own high standards.

**What does Authentic Learning look like in the art room?** Evidence of achievement in the arts relies upon the role of the teacher as facilitator (Fleming et al., 2016; Milbrandt et al., 2004). Fleming et al. (2016) notes that the teachers in this study used their knowledge in the field to facilitate the creative process rather than control it (Fleming et al., 2016). Milbrandt et al. (2004) uses activities that encourage student agency where Fleming et al., (2016) determined that sustained imaginative learning developed imagination as a resource that could be applied to future creative works requiring confidence and agency.

One observation example of authentic learning in the Milbrandt et al. (2004) study was a printmaking lesson where the high school art teacher demonstrated four different basic types of printmaking and asked the students to select a focus process to explore in-depth and form small

groups that researched that printmaking process, created how-to hand outs and demonstrated the techniques to the rest of the class. This art teacher observed that the students accomplished more in the given time frame compared with past teacher-directed lessons of the same processes, were more engaged, and independent in their learning (Milbrandt et al., 2004).

In Fleming et al. (2016), drama and film students were encouraged to take creative risks. The drama teachers encouraged positive critiques that embraced “mistakes” as significant learning tools rather than allowing mistakes to be perceived as failures (Fleming et al., 2016). A film teacher took considerable care in selecting quality western films as a learning model so that her students could see exceptional examples and realize full potential rather than being limited by their own experiences of the world when creating their own films (Fleming et al., 2016).

Burkitt and Lowry (2015) compared student, teacher, and parent/guardian views of drawing practices and perceived benefits to understand how the views and practices encouraged at school, in afterschool enrichment activity, and at home shaped attitudes and influenced drawing development behavior. Burkitt et al. (2015) found that the perception of benefits gained from drawing varied in priority between teachers, students, and parents. This study contributes greatly to my understanding of authentic learning and the importance of gaining insight into my students’ motivation; it also relates to Greene’s pedagogical views on the expansion of student perception in relation to educational quest to find meaning in the world (Greene, 1971).

### **Summation of Interrelationship**

As prior research indicates, student’s perception is indicative of the authenticity of the learning. During this research, I intend to guide skill development and offer self-reflection opportunities (Bartel, 2012) while increasing opportunities for autonomy and metacognition

(Fleming et al., 2016; Milbrandt et al., 2004; Zimmerman, 2002) through activities that support authentic learning. If a learner sees the value in the learning task and understands his/her role in that learning process, self-directed learning behaviors may result and support creative thinking (Fleming et al., 2016). Along with understanding the value of what has been learned, which is an aspect of authentic learning, increased self-directed learning may influence a student's perception of their capability, in other words self-efficacy (Gaumer Erickson et al., 2018; Wang et al., 2018); potentially generating a strong learning cycle of student engagement, achievement, and motivation (Ackerman, 2018) (see Figure 1: Interconnection of Concepts).

### **Chapter 3: Methodology**

#### **Conceptual Framework: Action Research**

Students who are taught self-directed learning skills are better prepared for meeting future challenges (Boyer, 2013) and may find greater success in school by adjusting to their own learning needs (Zimmerman, 2002). I hypothesized that by increasing authentic learning experiences, students would be more engaged in developing their art skills. Mastery experiences are gained through practice of new skills or for improved performance and this practice teaches capability (Ackerman, 2018). In this quantitative study, I examined whether or not increased authentic learning experiences would impact self-efficacy levels and self-directed learning practices over a four week period.

This research examined whether or not students who engaged in authentic learning experiences in the high school art classroom tended to exhibit greater self-direction in their approaches to art learning. According to Ary, Jacobs, Sorensen, (2010), action research can be valuable to educational research because it addresses a specific concern of the teacher/researcher and action research results in changes being implemented that directly benefit the participants of the study. Action research was best suited for addressing this question because depending upon the results of the data, student progress and class performance, lessons could be adapted and enriched while the pace could be controlled to meet the class needs. Quantitative research methods were used to collect data on observations of self-directed learning and self-efficacy levels. Through action research, authentic learning experiences were increased and adjusted based upon data collection; adjustments were made for what and how much authentic learning experiences were added.

Support for positive self-efficacy was adjusted using action research. Teaching practices were adjusted to support positive increases in self-efficacy levels. This included increasing mastery and vicarious experiences and verbal persuasion (Ackerman, 2018). Additional time was dedicated to practicing skills with teacher guided questions to promote student self-reflection (Bartel, 2012) and additional demonstrations including emphasis on the use of how-to video resources were made available for student use. In addition to regularly supported reinforcement of positive learning behaviors, verbal persuasion was increased to acknowledge and praise positive self-directed learning behaviors which included when students offered or received feedback from their peers. Verbal persuasion was also used to regularly remind the class that practice helps develop and refine skills that can be used for art expression (Ackerman, 2018). Verbal persuasion and vicarious learning experiences were utilized as a strategy for reinforcing self-directed learning procedures when students encountered difficulties and were waiting for teacher assistance (Ackerman, 2018). Other strategies that supported vicarious experiences were used with intention to build student mastery experience. One of these strategies was the student self-reflection checklist of learning behaviors (see Appendix E), in addition to being a data collection tool, it was used to reinforce procedures towards self-directed learning. The Color Theory Proposal Project worksheet guide (see Figure 2: Questions from the Color Theory Proposal Project and Appendix G for the full worksheet) was another strategy intended to activate student metacognition and build towards mastery (Morris, 2018).

Questions from the Color Theory Proposal Project
--

4- If you are not using a grid, what methods will you use to help your layout be more accurate? (sketch layout lightly in pencil, create a sketch in my sketchbook first, practice on scrap, etc.)
--

6- Describe the procedures you will take to develop your project's techniques in chosen media: (I will tape paper to a board and start with a wash for the background. I will then layer different marks using at least three different size brushes, allowing each layer to dry first, etc.)
8- For each color category you plan to use, describe the colors that you believe you will use and why they are within that color theory.
9- Describe any methods you will use if you get "stuck" to help you:

**Figure 2**

## **Participants**

The participants of this study were nine students from an introductory level art course in a public high school taught directly by the researcher. The students age range was generally between 14 to 18. The students from this community were part of a diverse socioeconomic population. Students enrolled in this course also ranged in academic ability, from students that took AP/Honors classes through students in grade level and remedial courses; classes included students with Gifted Individualized Educational Programs (GIEP) and students with Individualized Educational Programs (IEP) as well as English Language Learning (ELL).

This group of students was selected because the study was to examine introductory level art students and this was the only Art 1 class offered and taught by the investigator doing the research this semester. All students enrolled in this particular class were invited to participate in this research with the exception of ELL students, because the resources to support those students with full comprehension of this study would not be possible; the consent forms (see Appendix A) and letter to guardians (see Appendix B), assent forms (see Appendix C), self-efficacy surveys (see Appendix F), and student-self reflection checklists (see Appendix E)

would all need to be translated by an authorized translator. In addition, the teacher's verbal instructions would not be translated nor would the verbal persuasion that would be used to support students throughout the duration of the research.

Nine out of a class of eighteen students participated in this research. While the class consisted of eighteen students, nine students voluntarily participated in this study. Three of the students not participating, were ELL students for whom adequate translation material would not be possible to provide, as previously explained. Of the other students not participating, three returned parental consent forms indicating that they were not allowed to participate, two did not return consent forms, and one student returned the consent form but chose not to participate.

The investigator who conducted the research was the teacher of this course. This research was part of the requirements to complete the MEd program in educational program design at the University of the Arts. The purpose of this research was both to increase student learning at the introductory level for art classes and to improve teaching practices.

### **Materials**

The researcher created a parent/guardian consent form (see Appendix A) and parent letter with a brief explanation and important information regarding the research (see Appendix B) that was sent to the guardians of all students eligible to participate. A student assent form was also created by the researcher that briefly explained the process and details of the research (see Appendix C). The researcher also created a format for guardians or students to ask questions regarding the research anonymously in Google Forms (see Appendix D). This was explained in the letter to parents (Appendix B).



This study utilized a teacher-made observation tool that allowed for identifying and recording predetermined observable self-directed behaviors for Observation One, Two, Three, and Four (see Figure 3). There were four categories of observable behaviors: Problem Solving, Evidence of Experimentation, Willingness to Practice, and Evidence of Inquiry. During three predetermined observation times, the teacher documented behaviors for each student involved in the study. An additional observation was added after the initial observation because the initial teacher-directed lesson on color theory and mixing colors on a color wheel, required the use of student iPads in order to complete the lesson, thus affecting the data in the category, “Uses digital tools and technology resources available to help answer questions and supplement learning” on the teacher observation chart of self-directed learning behaviors (see Figure 3 and Table 6). Additionally, I wanted to gather data from each of the subunit lessons: Watercolor Landscapes, Pastel Abstract Drawings, and the Color Theory Proposal Project.

Observable behavior for problem solving was identified by three criteria: (1) student uses digital tools and technology resources available to help answer questions and supplement learning, (2) students seek advice or feedback from peers, (3) student explores multiple solutions to one problem (see Figure 3).

<b>Teacher Observation Chart Criteria of Evidence of Self-Directed Behavior</b>
<b>Uses digital tools &amp; technology resources available to help answer questions &amp; supplement learning</b>
<b>Seeks advice or feedback from peers</b>
<b>Explores multiple solutions to one problem</b>
<b>Plays with materials and tries multiple methods or techniques</b>
<b>Practices techniques, skills, or methods without rushing to finish</b>
<b>Discovers and refines techniques and skills through a working process</b>

<b>Seeks answers to self-posed questions</b>
<b>Asks about the work of others</b>

**Figure 3**

The observable behavior for evidence of experimentation was indicated by students playing with materials and trying multiple methods or techniques (see Figure 3). When a student showed willingness to practice, the student's observable behavior was (1) practicing techniques, skills, or methods without rushing to complete and (2) discovers or refines techniques and skills through a working process (see Figure 3). Observable evidence of inquiry was (1) students seeking answers to self-imposed questions and (2) when students ask others about their work (see Figure 3).

A teacher-made Student Self-Reflection Checklist of Learning Behaviors was administered to students after three different lesson units within the research unit (see Appendix E). The students were asked to reflect on various aspects of learning behaviors throughout the duration of that lesson's project. The first checklist, Checklist One, was administered online and Checklists Two and Three were administered in hard copy handouts (see Appendix E). All students in class were asked to complete these checklists as part of their regular closing activity classwork. However, only the data from students participating in this study was collected and compared. These students used the same code throughout the duration of this study.

Data was also collected through a series of online self-efficacy surveys (see Appendix F) provided by Gaumer Erickson, et al., (2018). This survey was administered three times. Once before "authentic learning activities" had been incorporated. A second time during increased use of authentic activities. The final administration of this self-efficacy survey was at the end of the culminating authentic learning goal written project.

## **Procedures**

In this quantitative research project, I collected and compared data from three sources over a four week period. First, I collected observational data using a checklist of criteria previously defined as specific observable self-directed learning behaviors (see Figure 3).

Secondly, I collected data by administering an online self-efficacy survey constructed by Gaumer Erickson, et al., (2018) (see Appendix F). For the third form of data collection, I administered student self-reflection checklists of learning behaviors towards the completion of each lesson subunit (see Appendix E). The three forms of data collection were conducted or administered before authentic learning activities, during increased authentic learning activities, and towards the end of the culminating authentic learning activity. The collected data was analyzed and compared along with general teacher observations throughout the research.

For this Action Research, consent and assent forms were explained and distributed to guardians and students (Appendix A; Appendix C). Only students who returned signed guardian consent forms and those who signed assent forms were included in the research study. Students and guardians were offered multiple methods of communicating and inquiring about the research before and throughout the process (Appendix D).

## **First Week of Implementation**

The first week was organized to establish a baseline of student self-efficacy levels and self-directed learning behaviors under a teacher-directed lesson structure in color theory. Prior to the start of the study, the students had exposure to multiple drawing techniques and opportunities to practice drawing skills including using a grid to improve accuracy of proportions. After the

baseline data was collected, opportunities for authentic learning were increased incrementally through various activities.

**Teacher-directed lessons and data collection.** All students began the unit with an introductory teacher-directed “non-authentic learning” lesson on color theory and mixing colors on the color wheel using primary colors. The students completed a color theory worksheet including a mixing and painting a small-scale color wheel using only primary colors. A color wheel color mixing demonstration was presented using watercolors and access to the introductory color theory PowerPoint presentation was made available for students on their Google Classroom after teacher presentation. Data collection began with teacher Observation One of self-directed behaviors using a chart of predetermined evidence categories (see Figure 3).

The teacher collected observation evidence of self-directed learning for research study participants using the same code to document data throughout the study. Survey One, the first of three self-efficacy surveys (Gaumer Erickson et al., 2018) was administered to students participating in the research study using their individual district-issued iPads (see Figure 4: Self-Efficacy Questions). All 9 students participating in the research had their iPads and were able to take this online survey and receive their results from the program. This established a baseline for self-efficacy levels towards art class tasks and the students’ general beliefs in their own educational achievement. An alternative online activity was administered to students not participating in the research study. Students received equal activity points for completing either the self-efficacy survey or the alternative activity.

**Self-Efficacy Questions**

Students were asked to assign their level of agreement from 5 being the most “like me” and 1 being the least “like me”

I can learn what is being taught in class this year.

I can figure out anything if I try hard enough.
If I practiced every day, I could develop just about any skill.
Once I've decided to accomplish something that's important to me, I keep trying to accomplish it, even if it is harder than I thought.
I am confident that I will achieve the goals that I set for myself.
When I'm struggling to accomplish something difficult, I focus on my progress instead of feeling discouraged.
I will succeed in whatever career path I choose.
I will succeed in whatever college major I choose.
I believe hard work pays off.
My ability grows with effort.
I believe that the brain can be developed like a muscle.
I think that no matter who you are, you can significantly change your level of talent.
I can change my basic level of ability considerably.

Figure 4

**Introduction of authentic learning experiences.** The next segment included skill instruction, increased practice opportunities, and the introduction of “authentic learning experiences”. The students completed the first “authentic learning activity” that asked them to explain what they know, want to know, and what they learned (KWL) regarding color theory using Google Forms. The students were then introduced to analogous colors through the work of Claude Monet and a teacher demonstration of mixing watercolors using two primary colors. Various watercolor techniques were demonstrated and supplemental demonstrations were added the following day to address student need along with a demonstration video made available on Google Classrooms for students to use as needed. The how-to video enabled students to practice self-directed behavior by utilizing the video if needed before asking for teacher assistance or

while waiting for help (Boyer, 2012; Zimmerman, 2002). Student independent work involved creating a watercolor technique chart to practice mastery by mixing analogous colors from two primary colors (Ackerman, 2018); this practice was considered an authentic learning activity because students may perceive its value in future creative expression (Morris, 2018). As the teacher/researcher, I acted as a mentor while the students independently practiced to insure accuracy of practice, as Dorn et al. (2004) explains Vernon Howard's (1977) practice theory and his emphasis on correctly repeating the practice is key to obtaining mastery.

The class then examined the landscapes and garden scene paintings of Claude Monet and were assigned online questions to answer regarding Monet's use of color and general information about the art movement Impressionism. Students had access to an online link to a website specializing in Monet's work and the teacher-made PowerPoint presentation made available on Google Classrooms. The school's one-to-one iPad technology is an excellent resource for students to develop self-directed learning behaviors by making use of teacher-provided supplements and links; if utilized, the resources made available to my students were intended to support self-directed learning and may have been perceived as authentic if the student understood its value toward future learning. Students were then asked to find resources for a landscape or garden for their own painting and the class reviewed the digital rubric made available on Google Classroom (see Appendix G). Students were reminded to seek analogous colors in their image resources and allow for at least three different watercolor techniques. Instructions were made available on Google Classroom. Subsequent demonstrations on watercolor techniques followed along with individual and group question sessions on processes

for “building” watercolor background, middle and foreground techniques, layering effects, and color mixing.

### **Second Week of Implementation**

The second week of action research involved the data collect method of student self-reflection checklists of learning behaviors. This self-reflection format both allowed me to collect data and offered students another way to increase their self-directed learning behaviors with the opportunity to see the value of developing self-directed learning skills to improve their own learning (see Figure 1: Interconnection of concepts).

**Data collection.** Observation Two of self-directed learning behaviors was documented as students continued to develop their analogous landscape watercolor paintings. Informal teacher memos were taken with non-specific student information regarding general observations. Student self-reflection Checklist One of learning behaviors was administered to all students after this lesson (see Figure 5 and Appendix E). Only the data from students voluntarily participating in this study was collected for analysis. The learning behavior Checklist was made available through Google Forms using student iPads for all students and in hard copy paper format. Students participating in the research used the same code used for the self-efficacy survey and the one used by the teacher for observation of evidence of self-directed learning. This student self-reflection checklist of their own learning behaviors is part of the increased authentic learning activities which are intended to promote self-awareness of academic skills (Zimmerman, 2002) through reflecting upon their own behaviors used throughout that lesson. Similar criterion is used as verbal persuasion (Ackerman, 2018) throughout the independent learning process of the lesson and the teacher observation chart criteria (Figure 3).

<b>Criteria for Student Self-Reflection Checklist of Learning Behaviors</b>
<b>Used digital tools or technology resources available.</b>
<b>Sought advice or feedback from peers.</b>
<b>Experimented with materials to explore multiple methods or techniques.</b>
<b>Waited for the teacher's help.</b>
<b>Took my time trying and practicing techniques.</b>
<b>May have rushed through process to finish.</b>
<b>Discovers or refined technique or skill.</b>
<b>Was curious about work of peers.</b>
<b>Asked peer questions about their work.</b>
<b>Developed questions about my work or process that I was later able to answer.</b>

Figure 5

**Opportunities for authentic learning.** I used verbal persuasion and vicarious experiences by praising self-directed learning behaviors such as getting feedback from their peers and verbally reminded students that their own practice will develop their skills. Once students completed the analogous landscape project, they used an online digital color-mixing program linked through their Google Classroom to mix and create color recipes. Students charted the amounts of each color used for each color they created digitally, and used that recipe to mix and create samples mixing watercolor versions. The students were asked to make note of whether or not the watercolor versions looked the same as the digital version and were encouraged to share color samples with their classmates. This activity was an authentic learning experience because it allowed students to explore color mixing by applying their own interest in



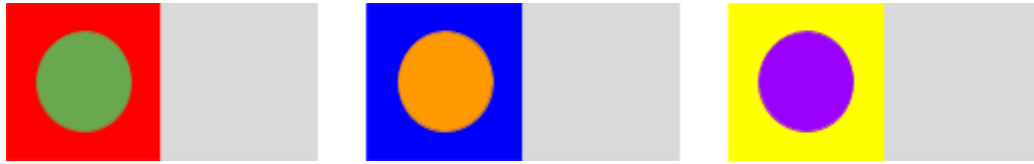
color theory (evident in their KWL) and promoted exploration along with positive peer interaction of shared results. Some students were using this class time to complete their landscape projects and did not participate in this activity.

### **Third Week of Implementation**

The third week of this action research included multiple smaller lessons, the introduction of a new medium, and a student self-assessment rubric. This week offered multiple opportunities for authentic learning to occur, however, there were some drawbacks of time constraints which may have lessened some of the benefits.

**Opportunities for authentic learning.** The first two days of the third week were dedicated to the second color subunit lesson, complementary colors. The students were introduced to Vincent van Gogh's work focusing on his use of complementary color. The presentation included a complementary color game-like "visual test" where students were instructed to look intensely at a circle within a square that was projected on a screen (see Figure 6). The circle was one color in a set of complementary colors and the square was its complement. Following this gaze, a light neutral grey screen was shown and theoretically an after-image of light is observed as a reversal of the complementary colors. This was repeated for each primary/secondary complementary color set. In my teaching experience, prior classes have generally enjoyed making this discovery and discussing why this occurs. This group was no different, they engaged in discussion about color theory and the perception of light, some coming closer to the screen and many shared observations with the class. Based on the level of engagement this activity, I believe this was authentic learning for many students.

Complementary Color Contrast “Visual-Test”

**Figure 6**

A how-to mix and evaluate a complementary color intensity scale was demonstrated using watercolors. An intensity scale rubric was explained and made available on Google Classrooms (see Appendix G). Students were asked to select a set of complementary colors, mix and paint an intensity scale based upon the rubric that would be used as their self-assessment and guide. The students were encouraged to remix colors as many times as they wanted to in order to achieve desired outcomes on the rubric, thus transferring ownership of learning to the student (Hathaway, 2012). Intensity scale examples were made available in both digital format and as watercolor in-class examples; some students took pictures of the watercolor examples using their iPads and used them as a guide to creating their own. Some students needed more guidance from individual demonstrations of mixing specific color intensities or verbal instructional steps to guide their process, such as, “add one more drop of the other color”. I utilized verbal persuasion toward the class as I assisted students, reminding them of their prior success in mixing a range of color variations successfully and the high level of subtlety they were able to create in the past weeks within their landscape paintings, the neutral grey in their color wheels, and their achievement in reproducing in watercolor the color recipes they made online.

**Limitations in authentic learning opportunities.** The next three days were dedicated to a new medium, pastel. After a brief exploration of pastels use, an introduction to the work of German Expressionist, Paul Klee was offered with a focus on abstraction and color theory.

Students were asked to review and apply tints, shades, analogous colors, and complementary colors using pastel blending techniques. A demonstration of how to apply the media was offered along with color theory application. Resources for Paul Klee and the assignment were made available on Google Classroom. This lesson encouraged experimentation but asked students to blend the pastels to create gradients using the four different color theory concepts learned. Due to time constraints in the research, I adjusted the lesson to focus on a much smaller scale than intended. This would reduce the amount of time spent on the project, but allowed less time for practice and development of technique. One unanticipated problem was that many students wanted to start over. Some students started over more than two times even though after asking to start over the first time, I emphasized the need to work out ideas before going forward. Two days into the pastel project, Observation Three of self-directed learning behaviors was completed. At the completion of the pastel project, students completed their self-reflection Checklist Two of learning behaviors. I believe the consequence of lessened practice time is reflected in these data results of Observation Three (see Table 6), as I explain later in my analysis.

#### **Fourth Week of Implementation**

The culminating lesson for this research, a choice-based proposal project, was intended to engage students in an authentic learning experience through goal setting, strategizing, and measuring success (Boyer, 2013). The students completed a worksheet where they constructed a goal to show evidence of their understanding of selected concepts and skills used over the four weeks, created strategies for both the process and if they were faced with difficulties, and used self-selected rubric categories to measure their success. This lesson included the elements which

are criteria for self-directed learning, offered students autonomy and ownership of the creative process (Boyer, 2013; Fleming et al., 2016; Hathaway, 2012; Morris et al., 2017) (Figure 1).

**Choice-based proposal project.** The students were given instructions with guided questions for the proposal project, and choices of rubric categories that were previously used (see Appendix H). As the students developed their ideas and made decisions regarding their choice of subject, which media they would use and which color theories they planned to apply. Recalling the choice-based studio learning process, Hathaway (2012) explained that authentic content occurs through student inquiry, so engaging my students in the decision making potentially provided a more powerful and personal authentic learning experience. In addition to autonomy, the project proposal worksheet also asked students to write an explanation of their choices applying metacognition and to make a selection from different rubric categories, which they would use to guide their work and complete their self-assessments at project completion (Morris et al., 2017). The students reviewed rubrics, selected themes, media, and color theories for their “show what you know” choice-based project. Then the self-efficacy Survey Two was administered using the same online survey (Gaumer Erickson et al., 2018) on their individual district- issued iPads.

**Data collection.** The students had a full week to complete the proposed plan. Midway through the project, data was collected through Observation Four, documenting evidence of self-directed learning using the same code numbers throughout the study for students participating in the research (see Table 6). Towards the end of their project, students completed their self-reflection Checklist Three for learning behaviors used throughout the choice-based project (see Figure 5). As students completed their work, the self-efficacy Survey Three

(Gaumer Erickson et al., 2018) was administered to students involved in the research, which they completed online using their district-issued individual iPads (see Appendix F). The students used the proposal handout form with their chosen rubric categories to complete a self-assessment for their work.

### **Analytic Processes**

The self-efficacy survey had a built-in statistical assessment provided by Gaumer Erickson, et al., (2018) (see Appendix F). This was immediately available online to each individual student after each survey was completed. The researcher/teacher received feedback and data analysis on each of these surveys. These were compared along with the observation tool created for observing self-directed behaviors and student self-reflection checklists of learning behaviors. As increased use of authentic learning activities were implemented, relationships between and self-efficacy levels and increased self-directed learning behaviors were examined and compared. Excel formulas and Apple's Numbers were used to chart and create comparison data of individual student averages, totals, and standard deviations. Also, line items on all three sources of data was also formulated through Excel and Numbers and compared based on totals, averages, and standard deviations.

### **Ethical Considerations**

The proposed research was submitted to an Institutional Review Board (IRB) and required edits were made, resubmitted, and approval was issued on February 14, 2019. The teacher/researcher was supervised by the advisor from the University of the Arts. Parental consent forms and child assent forms were signed and collected (see Appendixes A & C). Student participants were clearly informed in writing and verbally that their information will be

kept confidential, that participation was voluntary, and that participants may drop out of the study at any time. Parents or guardians were invited to ask questions regarding the study through email, telephone communication, and via an online form for asking questions anonymously (see Appendix D). This study was completely voluntary and every effort was made to ensure students understood this and that they knew that they could withdraw from the study at any time. Participation or non-participation did not affect the benefits or quality of education offered in this class, nor did their grade be affected either way.

Student information linked to the data was kept confidential and only the teacher/researcher has access to the original data. Survey, checklist, and observation documents used a student number code which can be linked to individual subjects, but only the teacher/researcher has access to individually linked information and all data used for research was de-identified. Signed consent forms will only be accessible to the teacher/researcher and will be destroyed by shredding after three years. Data written and digital information will be only identified with codes and will not be stored with any identifiable information. Paper copies of checklists have only a student number code (the same code used for digital surveys, checklists, and observations) which will be stored in a locked file cabinet and will also be destroyed by shredding after three years. Only the teacher/researcher has access to this information.

## **Chapter 4: Data Analysis and Results**

### **Analysing the Data**

After examining each individual data source and comparing changes over the duration of the research, I was able to compare source results to each other. The data results varied between the self-efficacy surveys, teacher observations, and student self-reflection checklists. Although the overall results are inconclusive, various categories within the sources suggest several interesting relationships and support significant implications.

### **Authentic Learning Experiences and Student Self-Efficacy**

Student self-efficacy was measured using a student-completed self-efficacy survey provided by Gaumer Erickson, et al., (2018) at three points in time as opportunities for authentic learning experiences were gradually increased over the duration of this study. Students completed the three self-efficacy surveys, one at the beginning of the research before opportunities for authentic learning increased, the second after two lesson units with increased opportunities for authentic learning, and the third self-efficacy survey was implemented at the end of the culminating authentic learning opportunity, the choice-based student proposal project. There was little change in the overall average self-efficacy scores (Survey One  $m=4.26$ , Survey Two  $m=4.27$ , Survey Three  $m=4.24$ ) (see Table 1). Although slight, the overall average of self-efficacy dropped in the last survey compared to the first and second.

Of the 9 students who completed surveys, 6 students demonstrated an overall increase from Survey One to Survey Three, and 3 students demonstrated an overall decrease from Survey One to Survey Three. Though more students demonstrated an overall increase, it wasn't

necessarily a linear rise; of the 9 students who completed surveys, 5 students demonstrated an increase from Survey One to Survey Two, 2 students remained exactly the same from Survey One to Survey Two and 2 students demonstrated a decrease from Survey One to Survey Two.

Of those 9 students, 3 students demonstrated an increase from Survey Two to Survey Three, 2 students remained exactly the same from Survey Two to Survey Three, and 4 students demonstrated a decrease from Survey Two to Survey Three (Table 1).

Self-Efficacy Surveys					
	S1	S2	S3	Individual Sum	Individual Ave
	3/8	3/29	4/5		
Student Q	4	4.15	4.08	12.23	4.07666666666666
Student R	3.46	3.46	3.69	10.61	3.53666666666666
Student S	4.15	4.31	4.31	12.77	4.25666666666666
Student T	4.46	4.54	4.85	13.85	4.61666666666666
Student V	4.54	4.31	4.23	13.08	4.36
Student W	4.23	4.08	3.62	11.93	3.97666666666666
Student X	4.92	5	5	14.92	4.97333333333333
Student Y	3.85	3.92	3.62	11.39	3.79666666666666
Student Z	4.69	4.69	4.77	14.15	4.71666666666666
Sum	38.3	38.46	38.17	114.93	38.31
Average	4.25555555555555	4.27333333333333	4.24111111111111		

Table 1

Students demonstrated the most growth through all three surveys on Question 6. "When I'm struggling to accomplish something difficult, I focus on my progress instead of feeling discouraged," where the average increased from 3.1 to 3.4 to 3.78 (see Table 2). This is interesting because this question had the most room for growth. While average scores for all other questions began with 4 or above on Survey One, this was the only question on all three



surveys that scored in the 3s, and it showed the most growth. In other words, students began lowest on this measure, so the rise is likely more meaningful.

Self-Efficacy Line Item Results				
	Surveys	Survey1 Ave	Survey2 Ave	Survey3 Ave
Q1	I can learn what is being taught in class this year.	4.555555556	4.555555556	4.888888889
Q2	I can figure out anything if I try hard enough.	4.444444444	4.555555556	4.444444444
Q3	If I practiced every day, I could develop just about any skill.	4.333333333	4.444444444	4.444444444
Q4	Once I've decided to accomplish something that's important to me, I keep trying to accomplish it, even if it is harder than I thought.	4.666666667	4.222222222	4.333333333
Q5	I am confident that I will achieve the goals that I set for myself.	4.111111111	4.222222222	3.888888889
Q6	When I'm struggling to accomplish something difficult, I focus on my progress instead of feeling discouraged.	3.111111111	3.444444444	3.777777778
Q7	I will succeed in whatever career path I choose.	4	4.111111111	3.555555556
Q8	I will succeed in whatever college major I choose.	4	3.777777778	3.666666667
Q9	I believe hard work pays off.	4.555555556	4.444444444	4.333333333
Q10	My ability grows with effort.	4.444444444	4.222222222	4.666666667
Q11	I believe that the brain can be developed like a muscle.	4.333333333	4.555555556	4.444444444
Q12	I think that no matter who you are, you can significantly change your level of talent.	4.444444444	4.555555556	4.333333333
Q13	I can change my basic level of ability considerably.	4.333333333	4.444444444	4.333333333
Q14	Individual Averages	4.256410256	4.273504274	4.239316239

Table 2

Also notably interesting growth was collected for Question 1, “I can learn what is being taught in class this year,” which showed an increase from Survey One to Survey Three from 4.56 to 4.89, while the Survey Two average results remained the same as Survey One (see Table 2). Similarly, Question 10 “My ability grows with effort,” increased from Survey One to Survey Three with averages 4.4 to 4.67, despite a decrease in the average of Survey Two at  $m=4.2$ .

Counter to growth, Question 5, “I am confident that I will achieve the goals that I set for myself,” and Question 9, “I believe hard work pays off,” showed a decrease from Survey One to Survey Three of about .2 (Question 5, Survey One=4.1 to Survey Three=3.89 and Question 9, Survey One=4.56 to Survey Three=4.3). Curiously, Question 7, “I will succeed in whatever

career path I choose,” showed the greatest decrease in self-efficacy from Survey One=4 to Survey Three=3.56.

### **Relationship between Authentic Learning and Self-Directed Learning**

Self-directed learning behaviors were evaluated using two different sets of data. The first, a student self-reflection checklist of learning behaviors administered at the end of three different lesson units (see Appendix E). The second, a teacher observation of evidence of self-directed behaviors conducted four different times throughout the duration of the study (see Figure 3). As with the change in self-efficacy, the checklists and observations were all completed as authentic learning activities increased. If utilizing Greene’s (1971) pedagogical views, the self-reflection checklists were a form of authentic learning if students saw the value in them and applied that knowledge to subsequent lessons. By the third checklist, students were exposed to the most opportunity for “authentic learning”; this is also true of the fourth observation.

**Student self-reflection checklists.** The overall sums and averages of the student reported self-directed learning behaviors via the Learning Behavior Checklists had steady increases from Checklist One, Two, and Three (see Table 3,4, or 5). Student R did not complete all three of these checklists due to accommodation needs and instead, completed the second checklist around the same time that the class completed the third checklist. As a result, I have created three tables that demonstrate the overall summations, averages, and standard deviations.

Checklists w/Student R Completing CL1 &amp; 2

	CL1	CL2	CL3	Individual Sum	Individual Ave
	3/20	3/28	4/4		
Student Q	6	5	5	16	5.33333333333333
Student R	4	3		7	3.5
Student S	5	7	7	19	6.33333333333333
Student T	7	7	7	21	7
Student V	3	1	2	6	2
Student W	4	5	6	15	5
Student X	6	7	7	20	6.66666666666667
Student Y	3	4	5	12	4
Student Z	6	8	7	21	7
Sum	44	47	46	137	45.6666666666667
Average	4.88888888888889	5.22222222222222	5.75		

Table 3

Table 3 shows the results of all nine students participating in the research with Student R completing the first and second checklists. The third set of checklist results reflect the summations, averages, and standard deviations of the other 8 students participating in the research. Table 4 shows the results of all nine students participating in the research with Student R completing the first and third checklists. The second set of checklist results reflects the summations, averages, and standard deviations of the other 8 students participating in the research.

Checklists w/Student R Completing CL1 &amp;3

	CL1	CL2	CL3	Individual Sum	Individual Ave
	3/20	3/28	4/4		
Student Q	6	5	5	16	5.33333333333333
Student R	4		3	7	3.5
Student S	5	7	7	19	6.33333333333333
Student T	7	7	7	21	7
Student V	3	1	2	6	2
Student W	4	5	6	15	5
Student X	6	7	7	20	6.66666666666667
Student Y	3	4	5	12	4
Student Z	6	8	7	21	7
Sum	44	44	49	137	45.6666666666667
Average	4.88888888888889	5.5	5.75		

Table 4

Analysis of both versions shows steady increase in the total number of self-directed behaviors self-assessed by the students at the end of each lesson as authentic learning activities were gradually increased. The total number with Student R's second checklist results placed in both the Checklist Two and Three demonstrates the total number of class self-assessed self-directed behaviors to be 44, 47, and 49. If Student R's data was removed from all three checklists and only the other eight students' self-assessed self-directed behavior checklists were calculated, the sum for each checklist would be 40, 44, 46 (Table 5). Table 5 also shows the averages for Checklists One, Two, and Three steadily increases ( $m=5$ ,  $m=5.5$ ,  $m=5.75$ ) with a total increase from Checklist One to Checklist Three of .75. Using the information from Table 3 and Table 4 to calculate the estimated results with Student R's data in all three checklists, the results show a similar increase ( $m=4.89$ ,  $m=5.22$ ,  $m=5.44$ ) with a total increase from Checklist One to Checklist Three being .64. The standard deviation for each scenario is very similar with the ST DEV=1.75254916 for both Checklist Three scenarios. In other words, the increases

reflect steady growth for the students as a whole, and not greater or less variation among the students.

Checklists w/Student R Data removed from CL1, 2, 3

	CL1	CL2	CL3	Individual Sum	Individual Ave
	3/20	3/28	4/4		
Student Q	6	5	5	16	5.33333333333333
Student R					
Student S	5	7	7	19	6.33333333333333
Student T	7	7	7	21	7
Student V	3	1	2	6	2
Student W	4	5	6	15	5
Student X	6	7	7	20	6.66666666666667
Student Y	3	4	5	12	4
Student Z	6	8	7	21	7
Sum	40	44	46	130	43.3333333333333
Average	5	5.5	5.75		

Table 5

Student reported use of self-directed learning through self-reflection checklists shows there were some meaningful changes. While the change in the use of digital tools was related to the specific content of the lesson, students reported more reliance on peers from Checklist One to Checklist Three, specifically “curiosity about the work of peers” and “asked peer questions about their work” (see Table 8). Notably, there was an overall decrease in student reports of “Developed questions about my work or process that I was later able to answer,” from 8 to 6 students (Table 8).

**Teacher observation.** The data from the teacher observations of self-directed behaviors did not match the student self-reflection checklists of learning behaviors in total trends and only some of the progressive increases were shared between teacher and student individual

self-directed data. Curiously, there was considerable increase in “seeks answers to self-posed questions” from Observation One (m=1) to the Observation Four (m=7) as shown in Table 7.

When the category about digital tools is removed, the teacher observation demonstrated an increase in each observed self-directed behavior from observation 1 to observation 4. There were slight decreases in some categories from observation 1 to observation 3. Other categories demonstrated increases from observation 1 to observation 2, subsequently decreasing in observation 3, only to increase again in observation 4. Steady increases were seen in "plays with materials and tries multiple methods or techniques" and "discovers and refines techniques and skills through a working process" (see Table 7).

In general, individual students generally increased observable self-directed behaviors over the four observations (see Table 6). Seven students out of nine increased the behaviors from observation 1 to observation 4. One student out of 9 remained the same although observations 2 and 3 fluctuated, and one student decreased from observation 1 to observation 4

although observation 2 and 3 also fluctuated.

Teacher Observations of Self-Directed Learning Behaviors

	Ob1	Ob2	Ob3	Ob4	Individual Sum	Individual Ave
	3/7	3/15	3/27	4/3		
Student Q	5	4	3	4	16	4
Student R	2	1	4	2	9	2.25
Student S	1	0	2	2	5	1.25
Student T	3	4	4	5	16	4
Student V	3	4	4	5	16	4
Student W	3	4	2	5	14	3.5
Student X	5	4	2	7	18	4.5
Student Y	4	5	4	7	20	5
Student Z	4	5	3	6	18	4.5
Sum	30	31	28	43	132	33
Average	3.33333333333333	3.44444444444444	3.11111111111111	4.77777777777777	14.6666666666666	3.66666666666666

Table 6

Unlike in the student self-report, in the teacher observation, few students were observed seeking advice or feedback from their peers or asking about the work of others (see Tables 7 and 8). Both categories demonstrated an increase from Observation One to Observation Four. Most notably, the category, “Seeking answers to self-posed questions,” showed little change from Observation One through Observation Three, but demonstrated significant increase in Observation Four. Seven of the 9 students were observed demonstrating self-directed learning evidence in Observation Four, up from previous observations that showed only one or zero students demonstrating this (see Table 7). The categories "explores multiple solutions to one problem," and "practices techniques, skills or methods without rushing to finish," showed steady increases despite a slight drop during Observation Three.

Curiously, teacher observation of self-directed learning went down remarkably in 5 students' observations during Observation Three (see Table 7). Each of these observation totals went back up for all 5 students in Observation Four (Table 7). Observation Three took place during the pastel project, where the lesson asked students to work more experimentally and more abstractly in order to learn how to blend pastels while reviewing color theory. Many of these students struggled with the medium's application and due to time limitations, this project was allowed shortest duration, thus the least amount of time for practice towards mastery.

### **Relationship between Self-Efficacy and Self-Directed Learning**

Due to the lack of overall change in student self-efficacy, it is difficult to measure the relationship between self-efficacy and self-directed behavior. However, the data do point to some interesting areas for future research. As previously stated, the greatest increase in self-efficacy was in "focusing on progress rather than feeling discouraged" (see Table 2). This falls in line with the increases seen in the teacher observation in areas such as trying different techniques and discovering/refining techniques and skills through a working process. Examining this holistically, the data suggests that there are some interesting insights into how authentic learning, self-directed learning, and self-efficacy relate to each other (see Figure 1).

### **Comparing Evidence of Self-Directed Behaviors**

When comparing similar categories of teacher observations and the student self-reflection checklists (see Figures 7 & 8), there are several curiously notable points that might be something to consider in future research. As indicated previously, the overall teacher observations showed little evidence of "seeking advice or feedback from their peers," or "asking about the work of others". Both categories demonstrated a slight increase from Observation One to Observation



Four. The student checklists indicated more students interacted with each other and shared feedback then observed at the time of teacher observation. This is not surprising, however, since teacher observation notes indicated that students had been informally observed interacting more on previous days and lessons.

Teacher Observation Categories (Table 7) Compared with Student Checklists of Learning Behaviors (Table 8)

Teacher Observed Categories	Teacher's Observations of Self-Directed Learning Behaviors							Student Checklist Categories	Students' Self-reflection of Self-Directed Learning					
	Ob1 (during color wheel project)	Ob2 (during landscape project)	Ob3 (during pastel project)	Ob4 (during proposal project)	Total Teacher Observed	Average Teacher Observed	St Dev Teacher Observed		CL1 (end of landscape project)	CL2 (end of pastel project)	CL3 (end of proposal project)	Total Student Check-listed	Average Student Check-listed	St Dev Student Check-listed
Sought advice or feedback from peers.	1	3	0	4	8	2	1.82574	Sought advice or feedback from peers.	5	7	5	17	5.66666	1.15470
Explores multiple solutions to one problem.	6	7	5	7	25	6.25	0.95742							
Plays with materials and tries multiple methods or techniques.	3	7	9	6	25	6.25	2.5	Experimented with materials to explore multiple methods or techniques.	7	6	7	20	6.66666	0.57735
Practices techniques, skills, or methods without rushing to finish.	6	7	5	9	27	6.75	3.36154	Took time trying and practicing techniques.	7	8 with Student R taking CL2	8 with Student R taking CL3	23	7.66666	0.57735
Discoveries and refines techniques and skills through a working process.	5	7	9	9	30	7.5	1.91489	Discovered or refined technique or skill.	6	5	6	17	5.66666	0.57735
								Was curious about work of peers	3	6	4	13	4.33333	1.52752
Asks about the work of others.	0	0	0	2	2	0.5	1	Asked peers questions about their works.	5	4	6	15	5	1
Seeks answers to self-posed questions.	1	0	1	7	9	2.25	3.20156	Developed questions about my work or process that I was later able to answer.	9	7	7	23	7.66666	1.15470
Sum	22	31	29	44	126			Sum	42	43	43	128		

Table 7

Table 8

Where the teacher observation, as stated above, indicated a significant increase in Observation Four from all previous observations in the category of “seeking answers to self-posed questions,” the student checklist of a similar category, “developed questions about my work or process that I was later able to answer,” had slight decreases after Checklist One began with all nine students (Tables 7 and 8). It is worth noting that as the authentic learning activities increased, so did the student responsibility in making decisions and being accountable for them.

Also worth noting, the teacher observations indicate the highest amount of evidence of self-directed behavior occurred in Observation Four which was during the choice-based proposal lesson designed with the most authentic learning opportunity (see Table 6). The student self-reflection checklist shows the number of self-directed behaviors were fairly consistent throughout all three checklists with each of the Tables 3, 4, and 5, showing sums and averages to be similar but overall progressively increased with the exception of the sums in Table 3.

### **Summary of Three Sources**

The teacher observation and the student self-reflection checklist both measure evidence of students' self-directed behavior, and the data shows both sources increase overall in student self-directed behaviors despite fluctuations between individual students results (see Tables 5 & 6). In contrast, the data from the student self-efficacy surveys show slight decreases in sums and averages from the first to the last, although a greater number of the student participants' scores increased from the first to the last survey (see Table 1). Interestingly, the student self-reflection checklists that measures similar categories of evidence in self-directed behavior, is overall higher than the teacher observations of these similar behaviors (see Tables 7 and 8). This difference is likely related to the difficulty involved in observing while teaching and addressing regular classroom management issues. As noted earlier, informal teacher observations found that students had interacted and sought feedback from their peers more frequently regarding their work than the teacher observation indicated.

The overall sums and averages from Checklists One through Checklists Three do progressively increase, as stated. When examining individual results, there are slight overall increases, decreases, and some with increases from Checklist One to Checklist Two then

decrease in Checklist Three. Individual results of student self-efficacy surveys generally show a slight increase from Survey One to Survey Two, while others have a slight decrease or stay the same. A majority of the individual student self-efficacy surveys show an increase from Survey Two to Survey Three, but equally others decrease or stay the same and the overall sums and averages show slight decrease.

## **Chapter 5: Conclusions**

### **Findings**

While results of the study are inconclusive, there is strong indication for future research in numerous areas. Overall results of the data collected from self-efficacy surveys do not support the overall results of self-directed learning behaviors from teacher observations and student self-reflection checklists. Therefore, the overall relationship between student self-efficacy and the prevalence of self-directed behavior remains complex and future studies would be needed to determine whether or not authentic learning is indicative of positive self-efficacy and self-directed learning behavior. However, student self-reflections and teacher observations of self-directed learning behaviors generally increased, and the student-reported self-directed behaviors were generally higher overall than teacher observations indicating a benefit from increased opportunities for authentic learning. Also, as opportunities for authentic learning occurred, activities required greater autonomy and metacognition implying additional challenge and further accountability for the students. This chapter will address how the content of each research question relates to the data categories and prior research, limitations, and implications in the field of art education and future research.

### **Generalizations**

Despite inconclusive overall results between the self-efficacy survey data and the self-directed learning behavior data, areas from this study show consistency with prior research, especially with authentic learning and self-directed learning. Individual student results across data sources, individual items on various data sources, and general teacher observations related to daily lessons and content offer insight into overall results.

**What is the relationship between authentic learning experiences and student self-efficacy?** As opportunities for authentic learning experiences increased over the course of this study, the overall self-efficacy survey scores did not. More specifically, findings indicated a slight increase from Survey One to Survey Two, but many of those self-efficacy increases then fell from Survey Two to Survey Three (Table 1). Activities promoting authentic learning may be perceived as more challenging, they increase student accountability through decision-making, self-reflection, strategizing, and asking students to measure they own success (Boyer, 2013; Fleming et al., 2016; Milbrandt et al., 2004). It is possible that as autonomy increased, the level of difficulty also increased which resulted in the slight decrease of overall self-efficacy scores while students reported self-directed learning behaviors rose (Table 5).

The relationship between authentic learning experiences and student self-efficacy remains inconclusive from this data, however, despite overall decreases in self-efficacy surveys, six out of the nine student participants individually showed an increase in self-efficacy levels from Survey One to Survey Three (Table 1). Although data does not support my inference, the three students with averages decreasing from Survey One to Survey Three were students who successfully took on high levels of challenge during their proposal project and may have sought more teacher assistance than they previously had on other projects. It is possible that while students are acquiring autonomy in their learning, gauging their own challenge levels is unfamiliar to them and they lack the strategies but not the desire to achieve their goals (Bartel, 2012; Boyer, 2013). This inference substantiates Bartel's (2012) findings that innate desire for achieving mastery motivates self-learning when the difficulty is reasonable and the goal is

perceived as having value to that learner. The following anecdotes may validate these inferences.

One of the students with decreased self-efficacy scores took on a challenge that required a skill not yet covered in class and needed individual instruction. Through vicarious experiences and verbal persuasion, the student applied the new skill to successfully complete the work (Ackerman, 2018). Another student took on a significant challenge during the proposal project that required more individual instruction than previously needed. Despite increasingly high levels of self-directed learning behaviors with a regular practice of divergent thinking and discovery through experimentation (Zimmerman, 2002), this student self-reported lowered levels in self-efficacy. The third student whose self-efficacy levels showed a decrease was a student that generally struggled with art skills but excelled in persistence and conceded that grades were highly valued, making this student extrinsically motivated (Morris, 2017).

**What is the relationship between authentic learning experiences and the prevalence of self-directed behaviors?** The teacher observation of self-directed learning behaviors increased from Observation One to Observation Four and student self-reflection checklist of learning behaviors also progressively increased from Checklist One to Checklist Three. Students self-reflections were generally higher overall than teacher observations indicating that the observations made by the teacher, being implemented only one day for each lesson which ranged from three to seven days in duration, were not adequate in offering a substantial picture of each student's self-directed learning behaviors throughout that lesson. Observing while teaching is has limitations due to perspective; while teaching individual students, self-directed learning behaviors in other students may have been missed.

As previously explained, I believe self-directed learning behaviors indicate authentic learning, but not all self-directed learning is necessarily authentic learning. The value of authentic learning can not be underestimated; the Morris et al., (2017) study indicated that task relatedness was a significant factor in intrinsic motivation which leads to high levels of engagement. Given the focus of this study was on introductory level art students, various levels of interest in the subject were expected. The goal being to increase student self-directed behavior in the art room was achieved, evident from steady increases in data collected from student self-reflection checklists and teacher observations of self-directed learning behaviors. Student perception is key to determining whether or not authentic learning experiences occur.

**What is the relationship between the student self-efficacy and the prevalence of self-directed behavior?** From the start, this group of student participants showed positive self-efficacy as evident in the baseline data. The first set of self-efficacy survey results revealed the group's belief in their own ability was over 82%, and the overall group's belief that ability can grow with effort was over 87%. Growth potential for the overall group may have been limited by these high starting levels.

Although beginning at a high level of self-efficacy, Student T had the greatest increase between Survey One and Survey Three with a steady increase. This student also had consistently reported the highest numbers on the self-reported checklist and the teacher observation also showed a steady increase from Observation One to Observation Four with Observations Two and Three being the same. Another student had unexpectedly different results. Student Y showed a decrease in self-efficacy levels between Survey One and Survey Three after an increase from Survey One to Survey Two. The teacher observation data from this same student steadily

increased with Observation Four being one of the two highest scores noted for any of the observations and this student's results from the self-reflection checklists also show steady increases (Table 1).

Student T's data supports a relationship between research in self-efficacy, authentic learning, and the prevalence of self-directed behavior (see Figure 1). The more a student gains mastery experience, self-directed learning behaviors increase and the learning is authentic (Ackerman, 2018; Bartel, 2012; Wang, 2017; Zimmerman, 2002). Although Student Y's self-efficacy data does not support the trend collected in the other data, teacher observation notes document this student's demonstration of problem solving techniques and divergent thinking which, according to Jaquith (2012), shows ownership of learning, a characteristic of self-directed learning. Unlike Student T's data that supports research that individuals with high levels of self-efficacy tend to have high degrees of accomplishment (Ackerman, 2018), Student Y's data for self-efficacy is counter to the theory of Ackerman, (2018).

**Interrelationship of three concepts.** Despite the inconsistency of Student Y's data with prior research, other areas from this study show consistency with prior research, especially in authentic learning and self-directed learning. These line items from the different data sources are especially implicative of relationships between self-efficacy, self-directed learning, and authentic learning.

Students demonstrated the most growth through all three surveys on Question 6. "When I'm struggling to accomplish something difficult, I focus on my progress instead of feeling discouraged" (Table 2). This coincides with two teacher observation categories that had the highest degree of improvement: "Practices techniques, skills, or methods without rushing to



finish,” and “Discoveries and refines techniques and skills through a working process” (Table 6). Both of these categories increased from 5 and 6 students respectively during the first observation, to all 9 students in the last observation. Although the student-reported checklist of learning behaviors remained about the same for similar criteria, the relationship between the survey results and observations is a positive indication that the increased opportunities for authentic learning throughout this study impacted both self-efficacy increases in this category and increased evidence of self-directed learning behaviors. Showing that learners engaged in the responsibility of learning gain motivation and ownership of that learning with positive support through vicarious experiences and verbal persuasion (Ackerman, 2018; Milbrandt). Not only does this information support prior research (Ackerman, 2018; Boyer, 2013; Zimmerman, 2002), but a student’s desire for mastery motivates self-learning as long as the challenge is reasonable and the student sees the value for future learning (Bartel, 2012).

The nine students who participated in this research showed a diverse range in ability levels and interest, but did not exhibit characteristics of a reluctant student. Three were males and six were females. At least five students had stronger than average skill levels based on the average Art 1 class, as demonstrated by proportional accuracy when using a grid to draw, and demonstrating significant improvement in shading techniques, including controlled gradients with both pencil and color pencil prior to research. I believe there was a connection between the class’s inclination to focus on their own work, willingness to experiment, and their ability to apply learned techniques and their higher levels of self-efficacy. Although the overall averages of self-efficacy slightly decreased from the beginning to the end of the research, changes in self-efficacy may require a longer study duration for small increments of change. Another

reason for inconclusive overall results may be related to that as activities that supported opportunities for authentic learning experiences increased, the level of challenge may have significantly increased, especially in skills related to autonomy and metacognition. I believe with more time and practice, just like technical art skills, students could develop the skills necessary for more autonomous and metacognitive learning. The change is incremental and may require significant time. Regardless of which skills it involves, if students recognize their increase, they may seek continued engagement, furthering their success, and motivating their desire for mastery through this self-learning process; this is authentic learning (Ackerman, 2018; Bartel, 2012).

### **Limitations**

Limitations for this action research included the limited number of participants and short duration of the study that may have directly affected results and student development. Although the data of Student T from all sources of collection supports research in all three areas that were addressed in this study, one student out of nine is insufficient. In addition to the number of participants involved in this study, the time frame of four weeks is too short of a duration to determine whether or not a relationship between the student self-efficacy and the prevalence of self-directed behaviors are interconnected, likely because self-efficacy requires significant time to develop (Bandura, 2006) and this study took place over a limited four week duration.

The results from teacher observations showed an overall drop in evidence of self-directed learning behaviors seen in Observation Three, which took place during the lesson with the shortest duration and least time allotted for practice towards mastery. I believe this factor accounts for the drop in evidence of self-directed behaviors indicated in teacher Observation

Three (see Table 6) because prior studies support significant practice time and that observation took place during the pastel lesson which was reduced in duration due to research time constraints (Bartel, 2012). With such few participants and inadequate duration, it would be impossible to determine whether or not self-efficacy can be supported by increased authentic learning experiences.

Of the 6 students who either chose not to participate or were not allowed to participate, I believe that the majority opted out of the study due to a general lack of interest in the course and were more reluctant learners in art class. Anecdotally, most of these students seem less enthusiastic about the required work of the course. As such, I believe that my sample was slightly more motivated as a group as compared with the entire class. Morris et al. (2017) believe that when students do not excel in a task, their self-efficacy and motivation level decreases. Students who did not participate in this study did not complete the self-efficacy surveys. I did observe that many of these non-participating students displayed an increased interest, evident by increased time spent on task and completion level work, during activities that increased opportunity for authentic learning experiences and with consistent verbal persuasion.

Data collection formats may have affected the results in self-efficacy and self-directed learning behavior evidence. Several questions in the self-efficacy survey were not specific to this introductory art class study and future research might benefit from the creation of a specific measurement tool that targets questions relevant to this course and eliminates questions not directly related to this course. Also, given that observing while teaching presents challenges that may limit accuracy in data collection, future researchers may consider utilizing the service of an observer to document self-directed learning behaviors, while the teacher implements the lessons,

incrementally increasing opportunities for authentic learning and supports vicarious experiences with verbal persuasion to foster positive self-efficacy.

### **Implications**

This study has significant potential for future research. Other than an increase in the number of participants and the duration of the study, there are numerous areas that could be studied specific to the interrelationship of authentic learning, self-efficacy, and self-directed learning. Future studies could address a gap in research by examining a relationship between students' perceived level of challenge and increased autonomy and metacognitive activities.

Since authentic learning is reliant upon student perception, future research studies might incorporate student assessments of challenge levels. Currently, in my teaching practice, but not included in this study, I have implemented a rating scale for students to assess the level of challenge they perceive after each lesson. This informal, yet informative assessment offered insight into my classes' perception of lesson difficulty and could offer additional data relevant to this action research. Like the student self-assessment of challenge levels, a method for measuring student perception of authentic learning could be utilized. Utilizing a Likert scale method, individual lessons could be student-assessed based on their experience of authenticity.

The data from this study showed that Student Y steadily increased in the self-reported checklists of learning behaviors while the teacher observation data also showed significant increases throughout the duration of this study. Future research might examine why, students with significantly high levels of self-directed learning and imaginative thinking may perceive low levels of belief in their own ability and belief towards ability in growth (Ackerman, 2018; Fleming et al., 2016; Gaumer Erickson, 2018; Jaquith, 2012)

In hindsight, after baseline self-efficacy levels have been collected, perception of authentic learning experiences and perceived challenge level could be evaluated. Future studies might then incorporate strategies for self-directed learning and assess self-efficacy levels. After significant practice of self-directed learning skills applied to the creative process and imaginative thinking, final self-efficacy levels may be evaluated.

### **Concluding Remarks**

If the challenges presented to the students of this study were the result of greater opportunities for authentic learning experiences through activities that increased autonomy and metacognition, than the goal and method of this study were achieved. Students and teacher reported evidence of self-directed behaviors were collected and the data showed an increase from the beginning through the end of the study. The relationship of authentic learning experiences, self-directed learning behaviors, and self-efficacy levels could not be concluded from this research study. Changes in self-efficacy may require significant time, through incrementally small increases in difficulty levels (Bartel, 2012). When the goal is perceived to have value to the learner, students can gain confidence in their ability to take on challenges once they understand that their own effort can have a positive effect on their academic success (Gaumer Erickson et al, 2018). The interrelationship of these three concepts, authentic learning, self-directed learning, and self-efficacy may become most beneficial when the learner perceives, believes, and knows the learning process is cyclical and supported by desire, acknowledgement, action, reflection, and refinement.

## Resources

- Ackerman, C., (2018). What is self-efficacy theory in psychology? *Positive Psychology Program*, <https://positivepsychologyprogram.com/self-efficacy/>
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## Appendix A

## Parent Consent Form



Institutional Review Board

**PARENT CONSENT FORM**

Self-Efficacy and Authentic Learning in Art Education

**Risks**

No foreseeable risks are involved in this study. Although students will reflect on their own abilities, the goal is to encourage positive learning behaviors.

**Benefits**

Benefits to the participants may include increased positive self-belief in achievement ability and increased independent learning skills. In addition, the information from this study will likely benefit future student learning.

**Alternatives/Standard Treatment(s)**

If you decide that your child will not take part in this study, while class participants are taking the research surveys, an alternative activity will be provided. Activity points will be given for both activities. All students will receive the same learning experiences. Learning Behavior Checklists will be assigned to all students as regular classwork, but if a student is not participating in the research study, their data on learning behaviors will not be used for this research study.

**Confidentiality**

Survey and observation data will be kept completely confidential. Data will be stored securely and will be available only to Loren Marquardt unless participants and guardians specifically give permission in writing to do otherwise. No reference will be made in oral or written reports that could link participants to the study. Collected data may be de-identified and used for future research or be given to another investigator for future research without additional consent.

**Participation Costs and Subject Compensation**

There is no cost for participation.

**Refusal or Withdrawal of Participation**

Participation is completely voluntary. Refusal to participate will involve no penalty or loss of benefits to which participants are entitled. Participants may stop participation at any time without penalty or loss of benefits to which they are entitled. The investigator will not end the subject's participation without subject or guardian's consent. A student or their guardian may request to drop out of the study by verbally notifying Loren Marquardt or through email.

**Subject's Rights**

You can obtain further information from the study investigator, Loren Marquardt, MFA, at [marquardl@eastonsd.org](mailto:marquardl@eastonsd.org) or 610-250-2481. Her university advisor, Sarah Eckert, PhD., may be reached at [seckert@uarts.edu](mailto:seckert@uarts.edu) or 215-717-6432.

If you have questions concerning research subject rights, you may contact the IRB administrator at [irb@usciences.edu](mailto:irb@usciences.edu) or 215-596-7490.

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Guardian Initials



Institutional Review Board

**PARENT CONSENT FORM**

Self-Efficacy and Authentic Learning in Art Education

New findings that may impact the participant's willingness to continue participation will be disclosed to the participant and guardians.

**Consent**

I have been informed of the reasons for this study. I have had an opportunity to ask questions and have had them answered. I have read this consent form, have initialed each page, and have received a signed copy.

\_\_\_\_ I give my child permission to participate in this study.

\_\_\_\_ I do not give my child permission to participate in this study.

\_\_\_\_\_  
Participant's (student) Name

\_\_\_\_\_  
Parent/Guardian Name

\_\_\_\_\_  
Parent/Guardian Signature

\_\_\_\_\_  
Date

**Investigator's Affidavit**

I have carefully explained to the subject the nature of the above project. I hereby certify that to the best of my knowledge the person who is signing this consent form understands clearly the nature, demands, benefits, and risks involved in his/her participation and his/her signature is legally valid. A medical problem or language or educational barrier has not precluded this understanding.

\_\_\_\_\_  
Signature of Investigator

\_\_\_\_\_  
Date

## Appendix B

## Letter to Parents

**EASTON AREA HIGH SCHOOL**

2601 William Penn Highway, Easton PA 18054 • 610-250-2481

February 19, 2019

To the Parent or Guardian,

I am writing to inform you that I will be conducting educational research in your child's Art 1 class this semester. As your child's art teacher, I would like to assure you that this research is intended to improve learning experiences in art class. Participation in this research is voluntary.

I have enclosed the consent form for you to review and sign. Please initial and sign the form regardless of whether or not you give your consent; there is a line for either option. After reviewing the form, if you have questions concerning the research, please feel free to contact me by email- [marquardl@eastonsd.org](mailto:marquardl@eastonsd.org) or by calling the school at 610-250-2481 between 9:00 and 10 am, or after 2:20pm, the receptionist can transfer your call to me. I have also made a confidential Google Form available through your child's school issued email. Questions can remain anonymous using this form and I will address my responses to the class. Thank you in advance, I look forward to working together this semester.

Thank you,

Loren Marquardt  
Art Teacher  
Easton Area High School



## Appendix C

## Student Assent Form

**Key Information About this Study**

I am inviting you to participate in a research study. This research is part of an advanced degree in education. The purpose of this study is to improve your learning experience in this Art 1 class. Your parents/guardian are also being informed about this study. This research is expected to begin this February 2019 and last through the end of March 2019. The following is a summary of the research to help you decide whether you want to be a part of this study.

**What is this study about?**

The purpose of this study is to improve your learning experience in this Art 1 class. There are three surveys participants will be asked to complete. The teacher will observe and document learning behaviors during class. Learning Behavior Checklists that are part of the regular classwork will be compared to survey results if students are participating in this research study.

**Why is this study being done?**

The purpose of this study is to increase activities that may help you be more reflect and improve your learning. You are being invited to participate because you are in this Art 1 class.

**What do participants need to do?**

If you decide to be a part of the study, I will ask you to take a survey that asks about your belief in your own ability and growth in skills related to this course and general achievement. The survey will take about five minutes to complete and will be taken once at the beginning of a unit, around the middle of the unit, and at the end of the unit. As part of classroom learning, all students will be introduced to various art skills with increased practice opportunities. Introduction to "authentic learning experiences" will include student goal setting for a culminating unit project.

**What happens if I do not participate?**

If you decide not to take part in this study, while the class is taking the research surveys, an alternative activity will be offered. Activity points will be given for both activities. All students will receive the same learning experiences. Learning Behavior Checklists will be assigned to all students as regular classwork, but if you choose not to participate in the research study, your data will not be used for this research study.

**What are the benefits to you?**

If you take part in this study, you may increase independent learning skills and build positive beliefs about your ability to achieve goals. In addition, this study will likely benefit future student learning.

**Are there any risks if you decide to be involved in this study?**

There are no foreseeable risks although you will be asked to reflect on your own abilities. Some individuals are more open to self-reflection than others. The goal is to encourage positive learning behaviors.



Institutional Review Board  
**STUDENT ASSENT FORM**  
 Self-Efficacy and Authentic Learning in Art Education

**Who will know about your information?**

Your responses will be kept completely confidential. I will be the only one with access to your information related to this study. I will securely store the data and it will only be available to me. No reference will be made in oral or written reports that could link you to the study.

**Do you have to be in this study?**

No, you don't. Your participation is completely voluntary. No one will be upset or angry if you don't want to be in this study. You may also change your mind anytime if you decide you don't want to be in the study anymore.

**Do you get anything for participating in the study?**

Activity points will be given for completing surveys, but an alternative activity will be given for the same activity points.

**What if I have any questions?**

If you have questions about the study, you can ask me now or at anytime during the study. You can also email me at [marquardt@eastonsd.org](mailto:marquardt@eastonsd.org), or use the confidential Google Form that I have sent to your Rover kids email. Questions can remain anonymous using this form and I will address my responses to the class. You may also contact my advisor, Sarah Eckert, PhD., at [seckert@uarts.edu](mailto:seckert@uarts.edu) or 215-717-6432. If you have questions about your rights as a participant, you may contact the IRB administrator at [irb@uscience.edu](mailto:irb@uscience.edu) or 267-295-3295.

Signing below means you have read this form and that you are willing to be in this study.

Participant's Name (write your name on the line): \_\_\_\_\_

Participant's Signature (sign on the line above) \_\_\_\_\_

\_\_\_\_\_ Date

**Investigator's Affidavit**

I have carefully explained to the subject the nature of the above project. I hereby certify that to the best of my knowledge the person who is signing this consent form understands clearly the nature, demands, benefits, and risks involved in his/her participation and his/her signature is legally valid. A medical problem or language or educational barrier has not precluded this understanding.

\_\_\_\_\_  
 Signature of Investigator

\_\_\_\_\_  
 Date

## Appendix D

### Google Forms Questions Regarding Research

### Questions Regarding Research

If you have any questions regarding the Art 1 Research, Consent form, or Assent form, please ask here. Your questions will be confidential. I will answer the questions as soon as possible. Thank you!

\* Required

**Ask Questions Here...**

Your answer

If you prefer to remain anonymous, check Remain Anonymous and I will respond to this question during class. If you would like an email response, check "Other" and provide your email address. \*

☐ Remain Anonymous

☐ Other:

**SUBMIT**

Never submit passwords through Google Forms.

## Appendix E

## Student Self-Reflection Checklist of Learning Behaviors

**Learning Behavior Checklist**

Check all that apply in each of the following categories. Please add a comment in other if you would like to clarify or add to your response.

\* Required

**1. Student Number Code \***

---

**2. At anytime during this last lesson, when I needed assistance, I: \***

Check all that apply.

- ☐ used digital tools or technology resources that were made available to help me.
- ☐ sought the advice or feedback from my peers.
- ☐ experimented with the material to explore multiple methods or techniques.
- ☐ waited for the teacher's help.

**3. During class practice times, I \***

Check all that apply.

- ☐ took my time trying and practicing the techniques.
- ☐ may have rushed through the process in order to finish.
- ☐ discovered or refined a technique or skill.

**4. At some point during the process, I: \***

Check all that apply.

- ☐ was curious about the work of my peers.
- ☐ asked a peer questions about their work.
- ☐ developed questions about my work or the process that I was later able to answer.



## Appendix F

## Student Self-Efficacy Survey



## Questionnaire

## Self-Efficacy Formative Questionnaire

Please **CHECK ONE** response that best describes you. Be honest, since the information will be used to help you in school and also help you become more prepared for college and careers. There are no right or wrong answers!

Student ID \_\_\_\_\_

Date \_\_\_\_\_

	Not very like me	1	2	3	4	5	Very like me
1. I can learn what is being taught in class this year.	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. I can figure out anything if I try hard enough.	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. If I practiced every day, I could develop just about any skill.	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Once I've decided to accomplish something that's important to me, I keep trying to accomplish it, even if it is harder than I thought.	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. I am confident that I will achieve the goals that I set for myself.	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6. When I'm struggling to accomplish something difficult, I focus on my progress instead of feeling discouraged.	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7. I will succeed in whatever career path I choose.	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. I will succeed in whatever college major I choose.	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. I believe hard work pays off.	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. My ability grows with effort.	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. I believe that the brain can be developed like a muscle.	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. I think that no matter who you are, you can significantly change your level of talent.	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13. I can change my basic level of ability considerably.	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Gaumer Erickson, A.S. & Noonan, P.M. (2018). Self-efficacy formative questionnaire. In *The skills that matter: Teaching interpersonal and intrapersonal competencies in any classroom* (pp. 175-176). Thousand Oaks, CA: Corwin.

## Appendix G

## Art 1 Intensity Scale Self-Assessment

Art 1 Intensity Scale Self-Assessment

Name \_\_\_\_\_

10 points total

Comments:

	Use the examples of the 9 section Intensity Scales to assess your own work. Mark the rating on the left with the explanation that most closely matches your scale. Circle, highlight, and comment (to the right) why this best matches your work.
Exemplary Work 10	Student used a set of Complementary Colors and mixed and blended the colors together to show even incremental shifts between one intensity to the other. Neutral is correctly shown mid-scale and all 9 increments are blended with precision and aligned on each appropriate color side of the scale.
Noble Work 9	Student used a set of Complementary Colors and mixed and blended the colors together to show mostly even incremental shifts of intensity with one or two larger or smaller shifts. Neutral or close to neutral is shown mid-scale and 9 increments are blended and aligned on the appropriate color side of the scale.
Commendable Work 8	Student used a set of Complementary Colors and mixed and blended the colors together to show mostly even incremental shifts of intensity three or more larger or smaller shifts. Neutral or close to neutral is shown mid-scale although multiple neutral variations may be apparent. Most of the 9 increments are blended but some show inconsistency. Increments are aligned on the appropriate color side of the scale.
Acceptable Work 7	Student used a set of Complementary Colors and mixed and blended the colors together. More than half of the incremental shifts of intensity are even. Others show larger or smaller shifts in greater degree. More than one neutral or close to neutral is shown near mid-scale with obvious variations. At least two-thirds of the 9 increments are blended but the others show inconsistency. Most of the increments are aligned on the appropriate color side of the scale with one or two exceptions.
Insufficient Work 6	Student used a set of Complementary Colors and mixed and blended the colors together. More than half of the incremental shifts of intensity are uneven, showing larger shifts in greater degree while many are indistinguishable. There may be numerous neutrals and multiple increments are placed on the opposite color side. Increments may not be fully mixed making intensity level difficult to recognize.
Unacceptable Work 5	Student may have shown increments but did not use complements. Scale may be incomplete. Scale may not show any incremental changes or only partial shifts throughout an incomplete work.
No Attempt 0	No color was used.

## Appendix H

## Art 1 Color Theory Project Proposal Worksheet

Art 1 Color Theory Proposal Project

Student Name: \_\_\_\_\_

For this project, “show that you know” color theory, media techniques, and proportion by choosing which color theory, which media, and what theme (subject) for your project.

1- For this project, the subject of my work will be (circle one):

landscape

nature

animal

picture of \_\_\_\_\_

2- Describe the resource you will use or combined resources. (I will use a photo of a lion resting under a tree, or I will combine a picture of a fish with a different background picture of light under the water.)

3- Select at least one rubric category (circle it on the left side) from the following:

	4	3	2	1
Proportions	Proportions are precisely drawn & show accuracy in parts to whole, spacing and details.	Proportions are mostly accurate with minor inaccuracies in size of objects, parts, in details, or spacing.	Proportions have more than minor inaccuracies in size relationship of objects, parts, in details, or spacing.	Multiple inaccurate proportions of objects, parts, details, and spacing.
Grid	Work shows evidence of careful use of grid.	Work shows careful use of grid.	Grid was used, but less accurately.	Grid was inaccurately used throughout.

4- If you are not using a grid, what methods will you use to help your layout be more accurate? (sketch layout lightly in pencil, create a sketch in my sketchbook first, practice on scrap, etc.)

5- Select at least one of the media categories (circle it on the left side) from the following:

	4	3	2	1

Watercolor Technique	Multiple different watercolor techniques are used (3 or more) with exceptional control while showing risk-taking through experimentation.	Several different watercolor techniques are used (2 or more) with commendable control, some less distinguished or controlled than others. Experimented.	More than one watercolor technique is used, but are less distinguishable. One shows some degree of control but other lacks experimentation and confidence.	One or more watercolor techniques may have been used but indistinguishable or hesitant in experimenting, and shows lack of control.
Pastel Techniques	Multiple different pastel techniques are used (3 or more including blending) with exceptional control and layered for consistency with experimental risk-taking.	Several different pastel techniques are used (2 or more including blending) with control and layered with only minor areas of inconsistency with experimental risk.	More than one pastel technique is used, partially blended w/less control or consistency & layers are minimal & inconsistent	One or more pastel technique may have been used but lack blending resulting in inconsistency and lack of control.
Multiple or other Techniques	Different techniques are used with exceptional control and risk-taking through experimentation.	Different techniques are used reasonably well, some less distinguishable/controlled than others. Some degree of risk-taking.	Techniques are used less distinguishably. Some degree of control is shown but lacks in experimentation and confidence.	Technique lacks control and/or distinguishability. Shows hesitation in experimenting and/or consistency.

6- Describe the procedures you will take to develop your project's techniques in chosen media:  
(I will tape paper to a board and start with a wash for the background. I will then layer different marks using at least three different size brushes, allowing each layer to dry first, etc.)

7- Select at least two different color theory categories (circle it on the left side) from the following:

	4	3	2	1
--	---	---	---	---

Analogous Color	Colors were mixed to show an extensive range of analogous colors with multiple variations in addition to tertiaries.	Colors were mixed to show a range of analogous colors including tertiaries.	Mixed colors show limited attempted range of analogous colors & may include tertiary, mostly primary or secondary colors. Other colors included distract from theory.	Colors were not mixed or incorrect colors choices were used. Other colors have been included which distract from theory.
Complementary Colors	At least one set of complementary colors are used and mixed extensively to achieve various intensities.	At least one set of complementary colors are used and mixed clearly with some degree of different intensities.	One set of complementary colors are used, may or may not have been mixed to show different intensities or other colors included distract from theory.	Complementary colors were not accurate and/or other colors have been included which distract from theory. .
Tints	White and/or water were mixed to show an extensive range of tints with multiple variations for multiple colors.	White and/or water were mixed to show a range of tints with some variation for several different colors.	White or water were used as tints with a limited range for more than one color.	White or water may have been used as a tint with minimal variation for at least one color.
Shades	Black was mixed to show an extensive range of shades with multiple variations for multiple colors.	Black was mixed to show a range of shades with some variation for several different colors.	Black was used as a shade with a limited range for more than one color.	Black may have been used as a shade with minimal variation for at least one color.

8- For each color category you plan to use, describe the colors that you believe you will use and why they are within that color theory.

9- Describe any methods you will use if you get “stuck” to help you:

## Appendix I

## Loren Marquardt CV

*Loren Marie Marquardt**loren.dzup@gmail.com**lorenmarquardt.com*

*Objective: To complete degree in Master of Education, Educational Program Design at  
The University of the Arts, Philadelphia, PA*

*EDUCATION*

- 1992 BFA, Tyler School of Art, Temple University, Philadelphia, PA (cum laude)  
1999 MFA, The University of the Arts, Philadelphia, PA (Painting)

*TEACHING EXPERIENCE*

- 1994-Present *Art Teacher, Easton Area High School, Easton, PA*  
 -design and teach four developmental levels of studio art  
 -teach analytical, theoretical, and practical application of various media techniques  
 -lessons and course sequence follow Standards Aligned System format  
 -participate in the organization and installation of yearly district art exhibits  
 -regularly display student art work and organize and supervise field trips  
 -involve students in local and regional juried art competitions and exhibitions  
 -balance individual budget and order materials and supplies  
 -professional development includes Learning by Design, Reading Apprenticeship, and Art as a Way of Learning
- 2001-2003 *Adjunct Faculty, Moravian College Art Department, Bethlehem, PA*  
 -designed and taught undergraduate Painting I and Painting II  
 -emphasis on color theory, technique, visual awareness, and figure painting
- 2005-2014 *Advanced Placement Art History Teacher, Easton Area High School, Easton, PA*  
 -established AP Art History course  
 -completed two AP certified Art History training courses  
 -AP Board Approved curriculum for ancient through contemporary art, beyond the western perspective, and thematic units including women in art  
 -student AP Art History exam scores evident of progressive success
- 2011-2013 *Co-Teacher, Community Based Art Program with Lafayette College & EAHS, Easton, PA*  
 -collaborative teaching involving visiting artists, lectures, and exhibitions with professor from Lafayette College Art Programs and art teachers from other local districts  
 -incorporate concepts and themes used by visiting artists into enrichment lessons  
 -guide and advise students with production and process

LOREN MARIE MARQUARDT continued page 2

## OTHER PROFESSIONAL CONTRIBUTIONS

- 1995-Present *National Art Honor Society Chapter Advisor, Easton Area High School, Easton, PA*  
 -advisor and founding chapter advisor  
 -oversee fund-raising for art educational museum and gallery trips  
 -plan and oversee yearly Art Society student exhibition and induction ceremony  
 -involve students in their Easton art community through visits to local venues, exhibits and participation in local programs  
 -coordinated guest artist speakers from Lehigh University, Lafayette College, and from the Easton art community
- 2006-2008 *Art Department Coordinator, Easton Area School District, Easton, PA*  
 -Coordinated district art department K-12, consisting of 5 elementary schools, 2 intermediate schools, and one high school  
 -Initiated and coordinated district art curriculum through beginning and structural stages  
 -Coordination of High School art department course schedules  
 -Planned and led department meetings and In-Service schedules  
 -Managed and balanced high school art department budget  
 -Established Lafayette Art Experience course, community-based art program for advanced achievement to Easton HS students within Lafayette College, Easton, PA

## EXHIBITIONS

- 1997 *From the Wall to the Floor*, thesis, Rosenwald-Wolf Gallery, The University of the Arts, Philadelphia, PA
- 1998 *Artists Who Teach in Eastern PA*, Northampton Community College, Bethlehem, PA
- 1998 *Resident Artist Exhibition*, Banana Factory, Bethlehem, PA
- 1999 *From the Wall to the Floor*, Thesis Exhibition, Rosenwald-Wolf Gallery, The University of the Arts, Philadelphia, PA
- 2000 *Off the Wall*, Artforms Gallery, Philadelphia, PA
- 2002 *The Realm of the Not Yet: An Exhibition Exploring the Role of Borders in Emerging Artists' Work*, Creative Artists' Network, Philadelphia, PA, Invitational, Curator: Gerard Brown
- New Faculty Exhibit*, Moravian College, Bethlehem, PA
- Greater Philadelphia*, The Galleries at Moore, Philadelphia, PA, Invitational, Curator: Jeremiah Misfeldt
- Moravian Art Faculty Exhibition*, Payne Gallery, Bethlehem, PA
- Moravian Women*, Moravian College, Bethlehem, PA
- 2005 *Moments in Time of a City in Transition*, Juried Exhibition, Bethlehem Fine Arts Commission, Payne Gallery, Moravian College, Bethlehem, PA
- Hungarian Multicultural Society Artists Residency Exhibition, Red Salon Gallery, Balatonfured, Hungary
- 2006 *From/About Central Europe II*, Works from the Balatonfured/Csopak International Artists Residencies 1996-2006, Central European Cultural Gallery (KeKi), Budapest, Hungary, Curator: Beata Szechy
- Drawing Conclusions*, Juried Exhibition, projectBLUE Gallery, Easton, PA, Curator: Danny Moyer
- 2007 *PAEA Annual Juried Exhibition*, \*Curator's Award Hope Horn Gallery, Scranton University, Scranton, PA
- Regional Art Educators Exhibition*, Richard A. & Rissa W. Grossman Gallery, Williams Visual Art Building, Lafayette College, Easton, PA

LOREN MARIE MARQUARDT continued page 3

*EXHIBITIONS CONTINUED*

2008	<i>Emergence</i> , Group Exhibit, 13 North Gallery, Merchantville, NJ Group Show, 13 North Gallery, Merchantville, NJ
2009	<i>Mapping the Edge</i> , Solo Exhibit, 13 North Gallery, Merchantville, NJ
2013	Easton Arts Community Annual Members Exhibit, Juried, Sigal Museum, Easton, PA
2017	Exhibiting Artist, Lehigh Valley Arts Council, Allentown, PA
2018	Artsquest Compendium, Bethlehem, PA
2019	Artsquest Compendium, Bethlehem, PA

*COLLECTIONS*

1998	Limited edition prints, Banana Factory, Bethlehem, PA
2005	Hungarian Multicultural Society, Balatonfured, Hungary

*FELLOWSHIPS & RESIDENCIES*

2000	Artpark Visual Artist Residency Award, Lewiston, NY Edward F. Albee Foundation Fellowship in Visual Art, William Flanagan Memorial Creative Persons Center Residency, Montauk, NY
2005	Hungarian Multicultural Society, Balatonfured, Hungary

*GUEST ARTIST LECTURES*

2005	Work from Hungary, Brown Bag Guest Artist Lecture Series, Banana Factory, Bethlehem, PA
2006	Drawing Conclusions, projectBLUE, Easton, PA

*PROFESSIONAL COMMITTEES & ORGANIZATIONS*

1995-present	NAEA, National Art Education Association PSEA, Pennsylvania Art Education Association NEA, National Education Association PSEA, Pennsylvania Education Association EAEA, Easton Area Education Association
1996-1999	The Art Exchange Program, co-founder and co-advisor for Easton Area High School art students with elementary art students in art enrichment program, Easton, PA
1998	Artist Resident Committee, Banana Factory, Bethlehem, PA
2000-present	Lehigh Valley Arts Council, Allentown, PA
2002-2003	CAA, College Art Association
2005-present	ACE, Arts Community of Easton, Easton, PA
2008	13 North Gallery Collective, Merchantville, NJ
2015-present	The Printmaking Center of New Jersey, Branchburg, NJ

*REFERENCES**Available Upon Request*