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High School Visual Art Students' Perceptions of Creativity

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Abstract

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Dissertation Submitted in Partial Fulfillment

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Abstract

When high school art teachers do not understand how their students experience creativity, studio art programs are less effective in fostering student learning than they would otherwise be. Nevertheless, extant research does not reveal a consistent or comprehensive understanding of how adolescents experience creativity in art education. Drawing on Csikszentmihalyi's theory of creativity and flow, this study explored students' perceptions of creativity and its relationship to flow, or the state of consciousness associated with optimal pleasure. This phenomenological study investigated students' perceptions of creativity and flow by interviewing nine high school advanced placement students in a public high school in southwest Florida. Data were drawn from three structured interviews with each subject and a field journal kept by the researcher. The Think Aloud technique used for the second interview provided rich descriptions while participants were in the midst of doing art. Field journal entries were organized according to Bailey's guide to field note classification. Moustakas's interpretation and modifications of the Van Kaam method of analysis provided a systematic approach to transcript reduction. The results of the investigation revealed four themes in the ways students perceive their own creativity, namely, influences, mindset, self-efficacy, and emotions. As they reflected on their perceptions of creativity and flow, students gained a greater awareness of their experience while creating art. Among the study's implications for social change, as art educators elicit these understandings, they foster creativity and transform students' lives in school and potentially, the wider society.

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Dedication

I would like to dedicate this dissertation in the memory of my father, James

Henson. He never gave up on me and always encouraged me to do my best. Thanks dad, I

will always carry your memory in my heart.

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I am grateful for the support of my husband, Steven Dacey, and my

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Chapter 1: Introduction to the Study

Introduction

Researching ways to promote creativity in the visual arts has led to the creation and discovery of theories that have great potential for advancing American high school students' creative abilities. The use of Csikszentmihalyi's (1990) Flow Theory is a way to help students understand their own creative potential. This dissertation study examined, compared, and analyzed theories of creativity in order to investigate new conceptualizations of how creativity can be addressed in 21st -century art studio practices. It specifically focuses on recent research associated with art education that uses the artistic paradigm called the creative-cognitive domain.

The term creative-cognitive was introduced by Sternberg, Grigorenko, & Singer (2004) to describe a theorized connection between characteristics of creativity and abstract thinking, with a specific focus on the ability to reason. Additional education researchers, Nusbaum & Silva (2011) proposed a relationship between cognitive engagement with sensory and perceptual stimuli. Recent studies have proposed an emerging domain to explain a dual process occurring while engaged in creative experiences. This new domain provides a neurological explanation of high measures on psychometric tests that measure divergent thinking and creative achievement (Kaufman, 2013; DeYoung, Grazioplene, & Peterson, 2012; DeYoung, Peterson, & Higgins, 2005; Wainwright, Wright, Luciano, Geffen, & Martins, 2008). This emerging domain does not, however, addressed the student voices associated with creativity. This study was

designed to further develop this domain by addressing aspects of creativity through the specific role of flow and its operation in the artistic process.

This descriptive phenomenological study applied Seidman's (1998) educational interview methods with a substitution for the second interview called Think Aloud. This interview substitution is a more reflective approach proposed by Schön (1983, 1987) and Someren, Barnard, & Sandberg (1994) for attempting to capture an in-the-moment phenomenon of artistic creation. This approach provides a different way to understand students' perception of their own creativity than has been employed by art education researchers in the past (Amabile, 1996; Bohme, 1998; Csikszentmihalyi, 1990; Eisner, 2002). In this study, the technique allowed participating students to enter into a reflective state while creating their own art images. The Think Aloud method was used as an interview strategy to examine cognitive processes through discussion.

Creating a structure that merged the philosophical interview methods proposed by Seidman with the Think Aloud substituting for a more traditional interview structure. This combined structure was used for a series of three structured interviews conducted with high school art students in the advanced placement art studio class. The first interview used semistructured questions, seen in Appendix A. The second interview used the Think Aloud method, which consists of discussing the art process with the students while they were working on their artworks in the studio classroom environment. As the students worked on their artworks, I asked questions about how they were creating, how they were thinking through their ideas, and what type of problems that they might have encountered. This method emphasizes a process of discussion and a close

attention to non-verbal moments while engaging in the experience. It specifically

examines the reasoning process within a semistructured script allowing students to fully

reflect on their thinking about ideas that they were actively working on. The inclusion of

this different interview structure illuminated a flow state as part of the creative art making

process. The third interview included questions derived from a review of the previous

transcripts in order to further illuminate the students' creative experiences.

The findings have positive social change implications by helping students

become more aware of their own creative abilities. While sharing their perceptions about

creativity, their awareness became solidified as they embraced their own understanding

of the process. Identifying a flow state when creating art provides students with a greater

sense of their own potential. This self-awareness became self-efficacy as they developed

their own path toward creativity. An awareness of the flow state provides a pathway to

transform how art educators design curriculum and thus contribute to greater positive

social change within educational realms.

This study focused on two main elements: a student's descriptions and

perceptions of creativity and whether or not they experienced a flow state. The research

questions lay out how the study will progress emphasizing these two elements of the

study. The nature of the study follows a qualitative tradition, specifically guided by a

phenomenological approach to explore the student voice. This section then transitions

into the purpose of the study, in which I explore the concept of creativity and flow theory.

This study was framed by a phenomenological approach used to focus on students'

perceptions through discourse, including both personal reflections and non-verbal

moments; to define the students' own experiences with creativity, and to explore connections with Csikszentmihalyi's (1990) flow theory.

The value of this research study is to help address how to foster creativity in art education. The student voice is a neglected area of study in the visual arts. Student perceptions and descriptions of their own creative experiences have not been addressed in the advanced placement studio program. This study provided insight into pedagogical pathways in transforming the Advanced Placement Studio Art curriculum to include more discussion based on students' perceptions and awareness of creativity and flow theory. The related literature in chapter 2 will help form the structure for this descriptive phenomenological study to further the importance of fostering creativity in art education.

Operational definitions guide the reader through the language, specifically terms, used in this study. Assumptions and limitations addressed the integrity of this study through an examination of the strategies associated with research bias, possible threats to validity, trustworthiness, and ethical considerations. The significance of the study explains how the relationship between studio discourse and creativity can be a pathway for understanding and realizing a flow state. The summary provides a reflection of the chapter and transition into chapters 2 and 3 that lay the foundation of this research study.

Background

Limited extant research addresses creativity through the lens of

phenomenology. However, many studies have examined or developed creativity

instruments to quantitatively generate data for analysis of the phenomenon of creativity

(Delis, Lansing, Houston, Wetter, Han, Jacobson, Holdnack, & Kramer, 2007). Some

mixed-methods studies, such as Tanner-Anderson (2010), examined how high school

students experienced creativity through the use of a multimodal project including

students' explorations with literature, music, and the visual arts. Tanner-Anderson was

able to help students cross over into different disciplinary areas, such as English, to

illuminate the interconnectivity of academic subjects and the creative experience.

Although this study produced significant results in the interdisciplinary concept of

creativity, more specifically how to get students motivated to write, it did not actually

examine students' perception of creativity. Exploring students' perception of their own

creativity was the central focus of this study.

Exploring the phenomenon of creativity, Sternberg, Grigorenko, &

Singer (2004) worked with high school students to examine the phenomenon of

creativity, but their research design did not include students' perceptions about their own

personal experiences with the phenomenon. Through examining the findings and

discussion sections they suggested the next step in identify original creative behavior

would be to examine how teenage students described the phenomenon.

In two similar studies, Forrester and Hui (2007) studied creativity with

young students at a Hong Kong primary school and the Byrge & Hansen (2009) study focused on students creative products. They discovered through examining the students' artworks and verbal responses as part of these mixed-methods studies, young children revealed that creativity occurred everyday within the visual arts. They proposed a new way to conceptualize the learning environment to facilitate creative thinking. Byrge & Hansen's new method was called "horizontal thinking" (p. 239). Both studies found that when students were actively engaged in their visual arts class, they felt more creative.

Much like the previous studies, horizontal thinking defined the ability to cross over into other academic disciplines for constructing knowledge and for supporting creative thinking potentially establishing a relationship between creativity and the structure of the environment.

Studying creativity within the arts rarely addresses a flow state. However, a case study by Rodriguez-Sanchez, et al. (2011) focused on how the act of piano playing provided a pathway to creativity by inducing a flow state. The design of this study collected self-reports of the flow experience from professional classical pianists. The results indicated a correlation between emotion and engagement, later defined as psychophysiological in the study. Participants' measures on cardiovascular and respiratory functioning and electromyography (EMG) readings were used to support when a flow state was experienced during the act of playing the piano. One drawback was that creativity was not addressed in self-reports. The psychological realm was emphasized to help support the experience of a flow state. Discussions about optimal

experiences were described, but the research study did not fully address participants' perceptions of creativity.

Brinkman's (2010) phenomenological research in creativity was limited by not addressing the participants' perceptions. However, Brinkman's main focus addressed how to teach for creativity by proposing methods for classroom application. Brinkman's analyses of the research findings alluded to the importance of flow theory and further phenomenological studies needed to fully understand how students experience creativity.

These and other studies have lead me to select phenomenology as the best research approach in understanding teenage students' perceptions of creativity because listening to students describe their experiences is the best method to reveal whether or not they entered a flow state. This study examined whether students actually experience characteristics of Csikszentmihalyi's flow state while creating art. Students did experience a flow state. This discovery potentially transforms art education practices for positive social change for the 21st- century art studio classroom.

Problem Statement

This study addressed a problem in art education of educators not knowing how students personally experience creativity. This problem exists because there has been no consistent or comprehensive practice of adolescent creativity. Previous research in art education has generated limited insight into students' understanding of the creative process that they experience while making art. In this study, Csikszentmihalyi's (1990)

theory of flow is being proposed to advance a theory for creativity. To advance the theory required empirical investigation to test the extent to which the theory captures students' creative experiences while making art. Examining students' perceptions of creativity helped illuminate whether or not a flow experience was self-actualized. Without self-actualization students would not actively reflect on their own creative potential. This study has helped build evidence for creating a robust and complex approach to discussing creativity with students to improve pedagogical methods as well as students as they practice art making.

Purpose of Study

The purpose of this phenomenological study was to describe teenage art students' perceptions of their own creative experience, by analyzing students' descriptions of creativity revealing a flow state. Students realized a flow state within the creative process and expanded their own awareness, thus becoming conscious of the experience. The purpose of this study was to explore whether a flow state was apparent during the creative process for the Advanced Placement Studio Art students. This study set out to explore how creativity was experienced by these students. The interview process allowed students to share their perceptions of creativity and through the sharing of the experience, were able to reveal a new dimension to the creative-cognitive domain in art education. This study served to establish a better understanding of what is actually going on in the student's mind while they are creating in the art studio classroom.

Research Questions

This study was designed to generate insights into how to address teenage students' perceptions of their own creativity and whether or not a flow state was realized during the act of creating art and to explore some possible amendments and clarifications to Csikszentmihalyi's (1990) theory of flow. The proposed amendments to Csikszentmihalyi's theory were proposed to adapt the theory to examine creativity as it applies to art education. Two primary research questions were used to focus the study:

1) How do high school students perceive and describe their creative experience in an advanced placement art studio?

2) And, how do high school students perceive and describe the connection between the phenomenon of creativity and a flow state?

Conceptual Framework and Theoretical Foundation

The creative experiences of American high school students used in this study showed a connection with Csikszentmihalyi's (1990) flow theory. This theory was used as the theoretical framework and embedded within the conceptual framework of this study. Creativity was studied and explored deeply through the essential components of flow theory. According to this theory, participants experience a flow state that they describe as an optimal level of awareness. This conceptual framework established was used to generate a pathway for understanding creativity in the advanced placement studio art classroom.

Allowing the students' voices to reveal individualized experiences with creativity, a bigger picture on the concept of creativity emerged providing students with an awareness of the phenomenon consciously. Sokolowski (2000) helped clarify this process suggesting that the human consciousness does not truly become actualized until an awareness of the process is realized and reflected upon. Flow states initiate self-actualization and are also referred to as creative self-efficacy (Prabhu, Sutton, & Sauser 2008). It is this state of awareness that has been applied to this study's philosophical underpinning. This state of self-actualization, creative self-efficacy, allowed for a flow state to emerge, it is where intentionality was actualized as a component of the emergent creative process.

A flow state becomes the absence of self. It is a moment that allowed participants to lose all sense of time and become fully engrossed in the activity at hand. Csikszentmihalyi (1990) asserted that, "The absence of the self from consciousness does not mean that a person in flow has given up the control of his psychic energy or that she is unaware of what happens in her body or in her mind" (p. 64). A flow state can be conceptualized as a stream of thought that at the unconscious level leads the mind into a state of pure enjoyment. When actualized, the ability to engage creatively during a flow state has profound benefits for individuals. Through continuous exposure to a flow state provided a strong pathway for understanding the creative process. Csikszentmihalyi described the flow state as a "loss of consciousness of the self" (p. 64). When immersed in a flow state all sense of time disappears and engagement in the task or activity at hand is what creates an optimal level of awareness or consciousness.

Understanding this awareness or consciousness drives the creative impulse, thus defining the phenomenological experience. Moustakas (1994) asserted that the character of the phenomenological experience "must be described rather than explained, the description aiming at an intuitive grasp of the essences embodied within an experience" (p. 49). It is through the use of phenomenological structure that has constructed the narrative descriptions of this study that forms a relationship between creativity and a flow state.

Flow is a phenomenological state of awareness that brings forth optimal awareness and happiness (Csikszentmihalyi 1990). Letting go of previous worries or concerns allow the flow state to fully emerge. The flow state allows the participants' mind to seek pure subjectivity through the creative process. The awareness of a flow state is actualized through reflection and discourse. It is similar to classroom discussion and builds the phenomenological construct. Moustakas (1994) stated:

> Whenever we think about something, we articulate parts and wholes within it. The parts and wholes make up the content of what we think when we go beyond simple sensibility and rather mute perception. The naming of parts is the essence of thought, and it is important to see the difference between pieces and moments when we try, philosophically, to understand what understanding is (p. 27).

Moustakas (1994) called this creative episode a "sense of wholeness of perception" (p. 50). Reflective instead of interpretative processes allow the creative impulse to come forth and clarify thoughts. Understanding the creative experience for high school learners could establish pedagogical strategies for art educators in the 21st-century.

Prabhu, Sutton, & Sauser (2008) established through empirical research that creativity is evident in every field of study and the research associated with creativity transcended all boundaries in the educational arena. Students practice reflection in the creative-cognitive domain by analyzing their own understanding and perceptions. According to Diliello, Houghton, & Dawley (2011) this understanding of a personalized creative self-efficacy, initiates innovation, which is the basis for success in all fields of research. This reflective process is where the students' voices become the "intrinsic feature of intentionality" (Moustakas, 1994, p. 28). Intentionality is the ability to focus on a specific thing or task, and to allow the mind to form a connection with the thought process purposefully. Allowing students to make connections to their own intentionality through a conscious awareness of creativity formed a pathway for examining the flow state.

Nature of the Study

Constructing an arts curriculum for the twenty-first century learner involves methods that unlock the student's ability to recognize their own creative potential. For this study the approach selected was qualitative and the tradition was phenomenological. Through studio discourse students began to freely share ideas about what it means to be creative. Discourse and dialogue are more than discussions about creativity, they form the basis for complex studio habits and this type of shared meaning established a pathway toward examining the phenomenon of creativity. By discussing

creativity, high school art students identified with their own perceptions of creativity and analyzed how they experience this phenomenon.

The students' voices were the main focus of this study. Meaning emerged through discussions, in this study referred to as discourse. As the students created art they experienced a flow state, which become the emergent subjective experience. When students have an opportunity to share how they are creating art and what they are thinking about as they create, they revealed the evidence of a flow state. Becoming aware of the flow state helped students understand their own creativity by exploring and explaining their own creative process, with the potential to bring forth creative self-efficacy.

Through a careful and critical study of the literature in art education, creativity and flow theory have helped identify a gap in art educational practices, specifically the lack of discussion of creativity and lack of flow theory associated with art making. Creativity studies tend to be a neglected phenomenological research topic (Sternberg, 1999). Building this study around Csikszentmihalyi's (1990) flow theory provided a different approach that focused on the interaction of the students and a connection within the newly emerging creative-cognitive domain. The students drew upon their knowledge of creativity through a blend of Seidman (1998) semistructured interview technique with Schön (1983, 1987), and Someren, Barnard, & Sandberg (1994) Think Aloud technique.

The Think Aloud is a technique based on a more causal discussion while

students are working on their artwork. A fuller definition and application of these two techniques will be explored in Chapter 3 on methods. This structuring of the interviews allowed for an exploration of the cognitive aspects of creativity. These techniques were essential for transforming how teachers foster this construct through cognitive processes. This research study examined how students' perceptions of creativity, through discussions about the creative process revealed a flow state, thus allowing students to become self-aware and build their understanding of creativity.

Phenomenology was selected as the methodological construct for this study to enable the students' voices to be revealed. This method provided data in the form of words. A field journal provided clarification and organization of the data. One common feature of the data organization and analyses became the "search for essences that may not transcend individuals, and lend themselves to multiple compelling interpretations" (Miles and Huberman, 1994, p. 9). The participating students provided their own perceptions of creativity based on personal and shared knowledge within the visual arts paradigm. Phenomenology was the best choice for this research study because according to Lester (1999) this approach has great power for "understanding subjective experience, gaining insights into people's motivations and actions" (p. 1). Through discussion with the participating students a genuine rapport established a balanced and focused discussion on the students' personalized experiences.

Students engaged in reflection and discourse about art tend to establish shared meaning about the art processes associated with a creative experience (Sternberg, 1999). Instructional practices that focused on student perspectives established an

educational environment, the art studio classroom, embraced perspectives that guided meaningful experiences with the art making process. Bohm (1996) described this process as more that just a dialogue, "each person is participating, is partaking of the whole meaning of the group and also taking part in it" (p. 12). This creative-cognitive process, discourse, lights the flame and excites students to connect with the phenomenon of creativity on a new, more profound level of understanding. Discourse and reflection have become the experiential avenue that elicits creativity.

By asking students to share their perceptions of their creative moments revealed new meaning that led to a more complex understanding of the inner processing that provided creativity to emerge. According to Creswell (1994), when students share their understanding about a phenomenon, "subjective meanings of their experiences – meanings directed toward certain objects or things" produce a greater awareness about their own artistic development (p. 20). However, in the studio art classroom a variety of personalized experiences tend to narrow the true subjective nature of creativity. Therefore, it is crucial to seek individual students' perceptions of their own creativity before sharing them within a group activity, such as a critique.

Sharing perceptions about creativity revealed something very private. Engaging in more reflective practices helped students feel more comfortable in sharing their insights or voices with the larger group. The sharing of ideas and perceptions aided in the development of a strong productive artistic environment. This process, discourse, is a complex inner process that is only revealed through reflection, experience, and a level of personal comfort with the artistic community. Through the synthesis of the creative-

cognitive domain revealed the essence of the phenomenon. According to Davis (2004), "creativity is the number one trait to develop" in teenagers (p.87). Davis built a connection between creativity and curiosity in students. When students were curious about the world around them, they have a tendency to be very creative about solving problems and inventing new pathways toward knowledge. Promoting creative behavior among high school teenagers helps them feel more secure about experimenting and exploring a variety of ideas and or solutions to many problems facing them in the future. Davis stated further that allowing students to realize their creative consciousness, creative self-efficacy, is an important goal in helping them improve their own private creativity along with sharing it with the artistic community of the classroom and world beyond.

In addressing educational reform initiatives at the secondary level requires a focus on creativity. According to Livingston (2010), "creativity is necessary to accomplish this goal (educational reform)" (p. 59). Building the creative-cognitive domain in art education is the catalyst for integrating knowledge that allows students to synthesize their understanding of creativity. Making these connections is essential for expanding and fostering creativity. Livingston described the need to address student voices because each voice has a very unique understanding of the world, "each has a distinctive imagination, the seedbed from which true originality grows" (p. 59). Creativity can also be seen as a skill. According to Grierson (2007), "art is a site of knowledge" (p. 535). To dive into learning and creativity opens up a gateway for discourse as a process that could define and describe the creative experience. Cunliffe (2008) argued that, "learning and creativity (are) knowledge-rich (and are based on)

shared procedures" (p. 312). Studio classroom discourse, discussion about creativity, has become an art studio practice that helps illumine and lead to understanding creativity through the creative-cognitive domain in art education.

Operational Definitions

The following key words and terms will be used in this study. For clarity of meaning, these definitions will help assist in a deeper realization of the study's outline and analysis.

Aesthetics: A branch of philosophy that is specifically associated with the arts. Aesthetics should be thought of as a physiological and psychological construct that occurs when individuals are engaged in an arts activity. It is often described as an internal response to an arts related experience. Scruton (1998) stated: "we can explain why aesthetic judgment aims at objectivity (because it is) connected to the sensuous experience of its object" (p. 14). It is based on intrinsic pleasure and a heightened awareness based on sensory perception. Scruton defined aesthetics as a universal value that is based in the rational world and is an indispensable element of what makes us all human.

Convergent Thinking: The term was first defined by Guilford (1955) in his Structure of Intellect theory. Convergent thinking can be defined as a type of thinking that focuses on coming up with the correct, single answer to a problem. It is also associated with critical thinking. Convergent thinking is a way to access information

learned previously to solve problems in the most effective manner. Unlike divergent thinking, it is not defined with novelty or uniqueness.

Creative-Cognitive Domain: Is a newly emerging paradigm in art education that reveals dual processing associated with neurological development in the brain. Kaufman (2013) further explored the specific trait associated with creativity called an Openness to Experience as the clarifying realm that links abstract and semantic information, specifically a focus on reasoning, defining this connection.

Creativity: Is defined in this study as an original thought or action by the thinker. Bohm (1996) described creativity as a prerequisite for originality. Bohm suggested that a person to fully explore creativity must first have knowledge of the area of study to be able to transform and initiate new ideas. Learning new ways of thinking requires problem solving and an ability to stay focused on the task or activity at hand. Bohm focused on the importance of discourse to reveal the conscious state of the mind, specifically identifying creativity. This definition is closely aligned with the phenomenon under study. High school teenagers, during discussions and reflections, focused their energy to reveal a new meaning through the memory of the creative act. According to Bohm, this thinking "is inferred from previous knowledge… this new order leads to the creation of new structures…(and becomes) the act of penetrating insight and the discovery of something new" (p. 6-7).

Creative self-efficacy: Is defined as individual's self-perceived level of creativity. Creative self-efficacy encompasses individual's self-awareness, self-regulation, self-determination, self-image and self-esteem that have defined the

internalization of creative behavior. Prabhu, Sutton, & Sauser (2008) described self-efficacy as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 55). By studying creativity as a related construct to self-efficacy, Prabhu et al. found that creativity was a specific cognitive domain, "it is important for a creative person to have faith in his or her capabilities not just for a temporary phase but over a stable time period" (p. 55). It is the students' perceived capabilities of their creative performance that helped establish the relationship between self-efficacy and creativity.

Discourse: Is similar to a dialogue or discussion, but it is also more inclusive. Non-verbal signs as well as moments of personal reflection are embedded within a discourse. Based on the concept of communication by Foucault (1972), discourse is also understood by the term enouncement. The concept includes the abstraction of signs used in debates. In this study it will refer to how high school students communicate their ideas about creativity.

Divergent Thinking: Is the key characteristic of creativity assessment. Silva, Martin, & Nusbaum (2009) defined divergent thinking as the ability to come up with multiple solutions to a problem (fluency) and to transcend traditional solutions (uniqueness). Based on an empirical study conducted by The Five Colleges of Ohio (2007), Belluigi (2009) found that creativity required both divergent and convergent thinking.

Flow: Has been established as a theory and consists of a consciousness

associated with optimal pleasure. Csikszentmihalyi (1990) defined the theory as, "a state in which people are so involved in an activity that nothing else seems to matter" (p. 4). Creativity flourishes within a flow state. Csikszentmihalyi also stated that flow state depends "on the ability to control what happens in consciousness moment by moment" (p. 5-6). Every individual has the potential for entering a flow state, however to reap its benefits, a conscious awareness is essential. Csikszentmihalyi's flow theory suggest that it is a highly desirable inner consciousness that brings about great personal happiness.

Intrinsic motivation: Is the ability of individuals to stay interested in a given task. It is often referred to as cognitive enjoyment (Burgess & Ice, 2011, Theorell & Ullen, 2010). The challenge level of the task needs to be at a higher level than the individual's ability to master the new task quickly. The task needs to be challenging enough to keep the individuals engaged in learning the new skill. But not so challenging that the students give up on the task thinking it is not attainable or achievable.

Self-actualization: Is associated with the concept of creative self-efficacy. It is the moment when the individuals realize they have gained new knowledge or a new level of understanding. Utley & Garza (2011) suggested that using expressive writing techniques with teenagers helped them understand how artwork can become therapeutic because the students become self-reflective in the writing process and that leads to self-actualization. Self-actualization is more than just a kind of understanding, it is a personality trait. Self-actualized individuals tend to seek out new understandings and approach all aspects of their lives with flexibility and creativity.

Think-Aloud technique: The term was utilized by Schön (1983) to elicit

greater reflection for practitioners in many fields of study. The interview is used to explore the understanding of the lived experience. Through reflection, individuals gave deeper awareness of the particular experience at hand in an effort to prepare them for future encounters.

Visual literacy: Is the ability to recognize, understand, and analyze the collaboration of sensory perception and cognitive thinking. In this study, philosophically speaking there is no distinction between the knowing of an object and perceiving how the object exists in reality. Taking this position on visual literacy is important for this study because students will need to express their ideas about creativity as well as share artworks during the Think Aloud interview.

Messaris (1994) argued that a visually literate individual will expand on the depth of the perceived object by analyzing clues within the perceived object. Experienced viewers, those that have had extended exposure to the visual arts, are able to "enhance real-world cognitive abilities" (p. 124). This realm of cognitive ability is referred to as visual literacy, also classified as "spatial intelligence" (p. 124).

Assumptions

This phenomenological study rests on four assumptions. First, students enrolled in an Advanced Placement Studio Art course have had some previous experiences with the creative process. It is assumed that they have had some exploration and purposeful manipulation of a variety of materials for artistic expression. Some examples of the type of instruction and experience for these Advanced Placement Studio

Art students would include drawing and drafting techniques, the study of color theory, foundational application of the elements and principles of design, exposure to art history, and aesthetic theories.

Second, students have experienced a flow state while creating art. This assumption emerges from personal experience as an Advanced Placement Studio Art instructor. By sharing experiences with students in this high school course has given rise to the research being addressed here in this study.

Third, teenage students in the Advanced Placement Studio Art course are able to speak in a sophisticated manner in communicating their perceptions on the process whereby they create art. In my teaching experience, I have found that students enrolled in the Advanced Placement Studio Art course have performed at higher academic levels in high school and are able to pursue college credits in this academic program.

Fourth, students are willing to sign an assent form and parents are willing to sign a consent form to aid in establishing ethical considerations of the study. Identifying and then addressing possible bias and threats to validity consisted of a full review of the research proposal by the Director of Research in the school district as well as the Walden University's IRB review. Participation in this research study was strictly voluntary. At any point in the study, students were able to opt out of the study and did so without any academic or personal negative results. Students were allowed and encouraged to review the transcripts after each semistructured interview and were able to

alter or edit the transcript based on their own personal perceptions of the creative experience.

It is important to realize that phenomenological research allows answers to be formulated through the questions that were addressed in this study. Building relationships with the student participants helped promote a positive and trusting environment. This does present some issues with research bias. However, entering into the study with a clear understanding of this phenomenon allowed for greater meaning to be established through engaging discourse.

Scope and Delimitations

This study focused on the phenomenon of creativity, especially as constructed by Csikszentmihalyi's (1990) flow theory, and was based on the perceptions of teenage students in an Advanced Placement Studio Art classroom. The study was designed on a small scale, using only one advanced placement studio classroom in one high school in the district. This delimitation was made because advanced placement studio art students have had several years of experience in the visual arts and would be more apt to reflect and describe their own perceptions of creativity.

Examining the students' perceptions on their own creativity provided a deeper understanding of how creativity emerged within a high school Advanced Placement Studio Art program. Students who enroll in this course have had several years of study in the visual arts, thus providing a greater opportunity for students to experience creativity and potentially a flow state.

Some theories and conceptual frameworks, such as Amabile's (1996) Consensual Technique for Creativity and Eisner's (1972) and Gardner's (1982) Hermeneutic Phenomenological approach to reflexivity, practice, and theory in a studio-based classroom were eliminated based on the research questions generated through the gap in the current literature review. The Consensual Technique is based in social psychology of creativity involving clear observable responses, open-ended tasks, examining the difference in established baseline performances. The phenomenological approach also weaved together descriptive methods with interpretive analysis. This research study was designed to allow students' voices to emerge to describe intuitive experiences, thus a descriptive phenomenological design.

The potential transferability of this study's findings to other research projects in advanced placement or other art studio classrooms may allow art education researchers to further explore creativity and flow theory. The key focus of this study was to examine students' perceptions of creativity and to learn whether or not a flow state was actualized. The application of phenomenology in educational research focuses on descriptive responses by participants and the ability of the researcher to make meaning through analysis of the codes and themes that emerged. The descriptions of the phenomenon tend to be thick with elaborate details. This level of description by participants allowed for richer analysis and the ability to transfer the results for possible further research. This employment of research methods, specifically phenomenology, improved the ability of future art educators to transfer this knowledge gained into their own studio classroom methods or research. Through the analyses of the experiences, a

clarity of students' voices have illuminated the phenomenon of creativity and Flow theory.

Limitations

The boundaries of this study involved both theoretical and empirical limitations. The study was based on Csikszentmihalyi's (1990) Flow Theory and the students participating in this study revealed some experience with a flow state while creating art. This area is not fully researched in art education therefore this study revealed other aspects of creativity and Flow Theory. It was anticipated that the selection of an Advanced Placement Studio Art classroom would provide richer information as it related to the study of creativity.

Empirical limitations are based on the type of studio classroom environment that has been established by the visual art instructor. Some drawbacks were the level of student motivation in the classroom setting. Students participating might be more willing to share their experiences with creativity if concrete benefits were established for participation. This limitation impacted the outlined methods of data collection. The data gathered in this study were designed to help reveal the students' voices, thus the research questions, to provide evidence to support the analysis of the students' semistructured interviews.

The biases that potentially influenced the outcomes of this study included the researcher's own personal experience with artistic creativity and the flow state. Within the phenomenological tradition it is essential that the researcher fully understand

the phenomenon under study and to let go of the things that are personally relevant and allow the students' voices to define the phenomenon through perception and memory. The researcher's field journal helped record thoughts about the student interviews to establish bracketing of personal experiences with the phenomenon.

This study was focused on the phenomenon of creativity and was based on the perceptions of teenage students in an Advanced Placement Studio Art classroom. It was designed on a small scale, using only one advanced placement studio classroom in one high school in the district. This group was selected because AP studio art students have had a few years of experience in the visual arts and would be more apt to reflect and describe their own perceptions of the phenomenon. It was assumed that the students were truthful in their discussions and grasped the importance of the questions as they related to their own creative development. The advanced placement program has been identified to help satisfy this limitation to the study. Students enrolled in the Advanced Placement Studio Art classroom were the best group to work with to reveal the phenomenon.

Significance

The students' voices, specifically their perceptions of creativity, were the basic goal of this phenomenological study. This research explored students' perceptions to help illumine whether or not a flow state was experienced during an act of artistic creativity. The themes that emerged are indicative and an embellishment of Csikszentmihalyi's (1990) flow theory, thus providing support for possible amendments

to the theory by future researchers. It was anticipated that a connection between the student discourse and the phenomenon of creativity identified a flow state. The results contribute to art education in a very significant manner by defining the newly emerging creative-cognitive domain within the discipline. These findings have addressed and expanded methods to elicit creativity within the art studio classroom. Promoting social change within art education pedagogy has contributed to two crucial academic reform initiatives: promoting creativity and innovation. Through an examination of the students' perceptions of creativity have allowed for students to connect with their own thinking and realize the potential of flow experiences. This construct within Flow theory, has become a way to engage students in producing artwork that are uniquely creative.

Feldman's (1970) three-pronged approach suggested the integration of, "teaching about the art of others, guiding students to creatively execute their own art, and engaging students in discourse about their art" (p. 36). Creative thinking and the awareness of a flow state allowed students to fully emerge themselves in advancing their own learning and knowledge. Engaging students in activities that required reflection through discourse helped expand on their creative ability and established optimal learning opportunities. The potential for transformative curricula design can be built around an awareness of a flow state and can guide reform efforts for the 21st-century art educator.

Summary

In this chapter, I have introduced this study by describing the background

of the study, the problem statement, purpose of the study, research questions, conceptual

framework and theoretical foundation, nature of the study, operational definitions,

assumptions, scope and delimitations, limitations, and significance of the study. The

findings of this study presented the students' voices as a new pathway in curriculum

development for art education. Examining students' insights into their creative

experiences, especially under circumstances where they reported instances of flow,

helped illuminate ideas about what it means to be creative. By examining the students'

creative experiences built on the connection between creativity and the flow state. This

process became a concrete experiential process and was viewed as establishing meaning

and defining creativity within a newly emerging construct, the creative-cognitive domain.

Looking at Csikszentmihalyi's (1990) theory of flow and Bohm's (1996) construct of

dialogue, in this study referred to as discourse, helped lead to the essential understanding

of students' perceptions of their own creative process. Through discourse the students

were able to express their thoughts and notions about being creative and literally push

outward "something that is already formed inside of him…. and from his perception

something further emerges in his next action" (Bohm, p. 4). This level of consciousness

allowed for a continual emergence of thoughts to be shared. The discourse became a

"stream of meaning flowing among and through" participants (Bohm, p. 7). Discourse is

something more than participation; it is a form of analysis. By paying attention to the

content and process of studio discourse has helped establish a pathway to study creativity.

    This study focused on art based outcomes that pertain to the perception

and understanding of the creative phenomena, which provided potential meaning associated with the students' own artistic creations. It was being proposed in this research study that through discourse the students would be able to recall and remember the artistic experience and move toward elaboration to reveal a flow state.

Chapter 2 will critically examine current literature on visual arts pedagogy to include themes of creativity and discourse to provide a window into how students experience their own creativity.

Chapter 2: Literature Review

This chapter consist of a review of literature on creativity and flow theory. Major themes include high school teenagers' perspectives, their voice, and how these contribute to defining their creative experiences. The review of historical and current literature illuminated a possible relationship with creativity and the flow state. The literature review was divided into five thematic sections: Defining Creativity; Flow Theory; Cognitive Structures; Creative Self-Efficacy; and Pedagogy. The literature review established relationships between the above mentioned five categories. These sections contain background information on the formation of relationships between definitions of creativity, flow theory, and how these define and build cognitive structures through personality traits associated with creative self-efficacy informing pedagogical structures to lead the 21st -century art education practices. This literature review helped reveal potential awareness of the phenomenon for high school teenagers as well as established the newly emerging area of concern in art education called the creative-cognitive domain.

Overview

Preparatory to this study, I conducted a literature review using university and public library sources. Specific on-line research databases that assisted in this research included EBSCOhost, ProQuest, Thoreau, ERIC, Academic Search Complete, Sage, Teacher Reference Center, WorldCat, and Dissertation Abstracts International. The search examined primary as well as secondary sources on flow theory, creativity, art

pedagogy, cognition, and aesthetics helped to round out the investigation. These sources brought a new perspective to examining high school students' perceptions of creativity. Search terms included: *aesthetics, art education, cognition, creative self-efficacy, creativity, divergent thinking, efficacy, flow theory, optimal experience, pedagogy, perception, phenomenology, reflection, self-actualization, self-efficacy, self-esteem, visual arts*, and *visual literacy*.

The five themes identified above are important in exploring high school students' perception of creativity established a new way of looking at the newly emerging creative-cognitive domain in the visual arts. Understanding what it means to be creative through the perspective of the students initiated a pathway toward social change in the design and development of art pedagogical practices in the 21st -century. Byrge & Hansen (2009) discussed the importance of conceptualizing creativity as a separate discipline. Byrge & Hansen stated that past research has described creativity as the most important human function and was linked to cognition. This cognitive level is sometimes called the higher level of executive functioning (Delis, Houston, Wetter, Han, Jacobson, Holdnack, & Kramer, 2007). Creativity and innovation are linked at this higher level of executive brain functioning creating what is referred to as an openness of experience that allow individuals to explore a level of cognitive experience best defined as a sense of freedom, playfulness, and ultimately a unique solution or contribution to the problem or within society (Burton, 2009, p. 332).

Creativity and innovation are the two most desirable traits for preparing

American high school students to enter college or the work force. Prabhu, Sutton, & Sauser (2008) explored how creativity has been studied and addressed in many fields determining that creativity is important "to literally every field" (p. 53). A similar determination by Sternberg (1985) led to the conclusion that creativity overlaps for "professors of art, business, philosophy, and physics…as did the implicit theories of creativity of laypersons" (p. 53). Diliello, Houghton, & Dawley (2011) also determined that creativity and innovation are what provide the insight and power for today's successful organizations.

Creativity is an elusive cognitive process. Although creativity is essential for positive social change in art pedagogy, as an educator it is a difficult process to define let alone foster. Harding (2010) argued that "creativity and change are inexplicably linked, because a shared aspect of humanity that motivates change inspires creativity" (p. 51). In Harding's study, the multiple relationships between creativity, cognition, and change referred to the creative-cognitive domain within visual arts pedagogy. By thinking creatively, a person is becoming more imaginative and is more likely to generate alternative and unique solutions to many of our complex challenges facing the world today. Creativity is seen in every discipline, and is theorized in many studies, inclusive of this study, as its own discipline or domain linked closely with cognition. Creativity is complex and at times mysterious. Harding suggested that when studying creativity "it is wise to be humbled before it" (p. 40).

An historical perspective is necessary to understand creativity and

contemporary art practices, and contributed to the foundation of this study. Gardner (1985, 1999), Amabile (1996), and Eisner (2002) defined and described creativity within both qualitative and quantitative approaches. One common aspect of these four studies was their association of creativity with intrinsic motivation. Other key concepts linked to creativity that were important in the literature review include traits, openness to experience, originality, and existential intelligence.

Gardner (1999) added a new dimension to his theory of multiple intelligences (MI) by proposing a new level called existential intelligence. This proposed ninth level of intelligence presents a new way of understanding creativity. Roberts (2010) aligned this conception of existential intelligence with creativity and imagination as "of being instead of doing" (p. 241). One debatable issue is the level of subjectivity associated with conceptualizing this existential intelligence. A point of argument is that existentialism involves both personal and subjective understandings of the essence of meaning. In other words, existential intelligence rejects objectivity and is only one vantage point when trying to understand and describe the human thought process associated with creativity. Gardner (1998) described existential intelligence as the ability to solve problems that ultimately have value within a society. Finding the ultimate meaning can be understood through an exploration of individuals' experiences with creativity.

Eisner (2002a) re-framed the conception of how creativity and the arts evoke a new relevancy for educational reform by suggesting a focus be placed on creativity. Focusing on the arts does not necessarily mean that the highest level of

creativity is seen in the arts for it can be seen in engineering, teaching, as well as the medical profession. The connection established between the way teaching supports creative thinking is what helps students engage in creating and ultimately valuing their ideas and examining alternative possibilities in the mind. Eisner posited that teaching to engage learners on a creative level, will help students develop multiple ideas to a variety of problems. Eisner further stated that a range of personalized sensibilities and skills that promote creativity resulted in the feeling of great satisfaction.

To contribute to society, creative solutions and products must go beyond sensory levels of awareness into what Eisner (2002b) called representation. Representation is considered a cognitive function. Eisner suggested that representation begins with the realization of a new idea occurring in your imagination. Within representation is the ability to edit. Much like in writing, the visual arts pays close attention to relationships, metaphors, and details to communicate ideas. Allowing students the time to edit creative ideas and to make them real requires educational reform efforts that promote "self-initiated learning" (Eisner, p. 379).

Amabile (1996) proposed a hypothesis of creativity called the componential theory that is directly tied to intrinsic motivation. Amabile posited that intentionality is key to motivating creativity. The componential theory is a model for creativity that includes both social and psychological aspects, hence intrinsic motivation helped individuals produce creative solutions. Jaquith (2011) defined intrinsic motivation as an "individual's positive reaction to qualities of the task itself" (p. 15). People, who are interested in pursuing a complex task independent from any sort of external reward, tend

to exhibit higher executive functions associated with cognitive processing directly aligned with divergent thinking. Applying the componential theory to examining creativity also initiated debate about divergent and convergent thinking.

Traditionally, convergent thinking was associated with intelligence and focused on generating the right answer whereas divergent thinking is associated with creativity thereby presenting many potential answers to a problem. Many tests have been designed to differentiate convergent and divergent thinking skills, for example Guilford's Structure of Intellect Model (Guilford, 1967), the Torrance Tests of Creative Thinking (Torrance, 1974), and Wallach-Kogan's Creativity tests (Wallach & Kogan, 1965). These creativity psychologists and educational professionals would agree that differentiating these two ways of thinking to predict intelligence and creativity is not accurate. Differentiating convergent and divergent thinking does not reveal an accurate representation of these two realms. Contemporary researchers such as Sawyer (2006) argued, "creative achievement requires a complex combination of both divergent and convergent thinking, and creative people are good at switching back and forth" between these two modes of thinking (p. 15).

Many characteristics that are associated with divergent thinking and accessing creativity include uniqueness and the ability to produce multiple solutions. Originality was also described when an idea was creative. Sternberg, Grigorenko, & Singer (2004) affirmed, "original behavior has value" (p. 60). Art educators might need to examine how teenage students describe, phenomenologically, what their experiences are with creativity. To study the phenomenon of creativity, Csikszentmihalyi's (1990)

flow theory might provide a structure to further examine high school teenager's experiences with creativity and to further develop the creative-cognitive domain in art education.

Csikszentmihalyi's (1990) flow theory established the conceptual framework of this phenomenological study. A flow state is an elevated heightened awareness that produces optimal happiness and combines both physiological and psychological awareness. This is the manifestation of the flow experience. He argued that a flow experience, or state, provided individuals with a heightened sense of awareness that allowed them to fully immerse themselves in the task or activity at hand. It is a complex and rewarding experience building on pure pleasure and full attention. The flow state has not been fully recognized in the visual arts and very little research has been done to examine the potential transformative nature of this theory. A gap in art education research will be demonstrated in this chapter to build a relationship between: the complexity of creativity, creative self-efficacy, and intrinsic motivation through an understanding of flow theory and cognitive structures, also known as higher level executive functioning (Delis, Houston, Wetter, Han, Jacobson, Holdnack, & Kramer, 2007).

Flow theory is revealed in many fields such as, dance, music, sports and business. Looking at how this theory is connected to high school teenagers' experience within the visual arts enabled me to ascertain whether there was a stronger link for establishing transformative educational methods in the art studio classroom. Getting at

the root of creativity would seem to involve a clear connection between cognitive structures as it related to aesthetics.

Examining how a student becomes creative was central to a level of self-awareness, being described in this study as creative self-efficacy. It was intended that these categories would weave together a framework in addressing and transforming art pedagogy for the twenty-first century learner. These proposed categories illuminated connections that exist between creativity and flow theory to further address the emerging creative-cognitive domain in art education as well as having strong social change implications for educational reform. The following sections will organize the literature review into specific ideas that have emerged when investigating creativity and flow theory.

Defining Creativity

The study explored the students perception's about the nature of creativity in order to reveal a flow state. In an attempt to understand creativity a comparison of definitions established how this study was focused. Creativity is a concept that has varying definitions. Different theorists have differing definitions about creativity, however several characteristics that are seen during the creative process are similar. Some of the categories where creativity has been studied included, "personality, cognitive, contextual, psychometric, psychoanalytic, and pragmatic approaches" (Nelson & Rawlings, 2007, p. 217). One area that has not been fully investigated is how teenage students actually perceive their own creative experience. This section will examine

creativity within these approaches and focus on correlates of creativity, specifically

character traits and intrinsic motivation that forms the definition of creativity to include:

The Person; The Process + Product; and The Place. These areas have identified creativity

from different perspectives. According to Sternberg & Lubart (1995), "creativity depends

on several different components" (p. 61). This approach involved a study of intellectual

abilities of students, which also included personality traits as well as intrinsic motivation.

The person focused on what traits are associated with the individual's ability to be

creative. The process + product section examined the thinking and production of creative

products. The presence of a supportive environment has also been determined as an

important factor to foster creativity (Zenasni, Besancon, & Lubart, 2008). The place

explored how an environment aids in students ability to perform creatively. All three

categories have constructed a comprehensive working definition of creativity for this

study.

The Person

Intrinsic motivation can also be described as self-directed learning.

Jaquith's (2011) research revealed that intrinsic motivation was the key to becoming

creative. Defining individual creativity required a focused look at intrinsic motivation.

Intrinsic motivation became the key factor in understanding how creativity and cognition

formed a whole. Intrinsic motivation is understood as the ability of individuals to set their

own goals and to stay focused on perceived academic and social outcomes. Selart,

Nordstrom, Kuvass, & Takemura (2008) conducted an empirical study revealing that

individuals who "engage in an activity for its own sake are intrinsically motivated" (p.

439). Becoming intrinsically motivated released the pressures of the outside world and allowed the individuals to focus entirely on their own personal achievement no outside rewards were necessary or desired. Sawyer (2006) stated that many "psychologists have discovered that motivation plays an essential role in creativity" and that "creativity comes from intrinsic motivation" (p. 54). To be creative individuals must be motivated by the problem or subject area, therefore "creativity is domain specific" (Sawyer, p. 59). Once a person is motivated, metaphors, analogies, and other unique combinations or solutions are produced. Examining what is at the root of creativity is connected to a natural evolving biological process. The ability to form conceptual combinations is one specific characteristic of creativity.

The conceptual combination is the result of cognition. Cognition refers to the ways in which people think about certain problems within a specific domain. This is what produces the "cognitive processes from which novel ideas emerge" (Sawyer, 2006, p. 65). In this study the term creative-cognitive domain refers to this internalization of ideas that incubates in the mind and produces interesting and new ideas. As a result, the creative-cognitive reference helps explain the complexity of how the mind combines concepts to produce insightful solutions, also referred to as higher level executive functions (Delis, Houston, Wetter, Han, Jacobson, Holdnack, & Kramer, 2007).

A contrasting theory presented by Boden (2004) suggested a different perspective on creativity. For Boden, "although some forms of creativity are combinations of existing elements the most important creativity involves a transformation of conceptual space" (p. 69). At each new level of cognitive growth, individuals generate

"new cognitive capacity" (Hill, 2008, p. 592). This allowed for a sense of self-identity to emerge through consciousness. Hill argued that creative individuals are really a product of the collective social environment. It is at this level of cognitive growth that individuals can achieve a level of self-awareness associated with what is called creative self-efficacy.

The strengths of Jaquith's (2011) research defined the origin of the creative-cognitive domain. He revealed that intrinsic motivation was the central characteristic that provided a pathway toward developing the synthesis of creativity and cognition. Boden's (2004) theory brought forth the necessity of designing the environment to elicit creative thought and thus producing individuals that would be self-motivated to further the individual's cognitive growth. The dynamic of the creative cognitive synthesis is referred to as creative self-efficacy.

Creative self-efficacy is when individuals feel a sense of ownership over their learning and are self-aware of how they produce ideas and solutions. In this creative self- efficacy a synthesis of thought and creation become united and as a result individuals no longer require approval from a collective group. The individuals have established their self worth and become less defensive about ideas and are willing to have a level of "openness" to new perspectives and solutions (Hill, 2008, p. 594). Individuals at this level of cognitive development move away from inner conflict and self doubt and are able to handle a greater level of ambiguity.

Ambiguity is a very unique quality that classifies creative people. An empirical study conducted by Zenasni, Besancon, and Lubart (2008) revealed how individuals who performed at high creative levels during the engagement in complex

problem solving had no difficulty with ambiguous criteria or variables. The research study helped determine that individuals who tolerate high levels of ambiguity are more likely to be creative when problem solving. Hill (2008) described this "integrative capability to be an important aspect of creativity" (p. 594). Ambiguity is a characteristic associated with divergent thinking. The ability to generate multiple solutions to a problem defines divergent thinking. Divergent thinking might free up individual's creativity, however it is only one factor in defining what it means to be creative.

Challenging tasks keep people intrinsically motivated and creative. Divergent thinking allows individuals to form multiple solutions to any given problem. The empirical research conducted by Silva (2009) provided a refined definition of divergent thinking. Silva concluded that divergent thinking is the ability of individuals to generate multiple ideas (fluency of ideas) as well the ability to create profound and unusual solutions to complex problems. Individuals who are open and comfortable with thinking outside of the box tend to be more creative. Although divergent thinking is associated with creativity, Sawyer (2006) suggested, "creative achievement requires a complex combination of both divergent and convergent thinking" (p. 45). The trademark of creative individuals is the ability to engage in complex problem solving by switching back and forth between both convergent and divergent thinking.

Examining how creativity is fostered in art education, Costantino, Keelam, Cramond, & Crowder's (2010) pilot study showed that students were switching between divergent and convergent ways of thinking when engaged in creative acts. The researchers' concern was with understanding how to improve engineering education,

specifically the need for more creative thinking with undergraduate students enrolled in engineering programs. Their results helped reveal the notion that students who studied engineering became uncomfortable "thinking creatively when considering their designs for real-world contexts" (p.50). According to Costantino et al., creative thinking is at the center of a strong economy (p. 50). Thinking divergently helped students move beyond social pressures and comparisons. This involved a process of innovation, that is, a certain way of thinking that solves complex problems. Divergent thinking required the students to come up with multiple solutions to a problem. Students in this empirical study were more comfortable with finding one 'right' answer, hence clinging to convergent thinking processes. As a result, Costantino et al. created an interdisciplinary course for engineering students that merged traditional engineering courses with visual art courses. The rationale for designing this new curricular program was to build stronger connections between the two disciplines to stimulate more creative thinking.

The results, which included four-years of data, helped determine that the focus on visual arts provided students the opportunity to fully "understand the interrelationships among engineering, the social sciences, arts and humanities" (Costantino, et al., p. 52-53). The new academic programming allowed students to engage in more complex problem solving by applying concepts learned in the visual arts to the engineering field. This strategy enabled students to become more creative in problem solving and prepared them for highly complex situations in the engineering field.

The ability to adapt within many complex intellectual situations is a trade

mark of the creative person. While engaged in creative thinking individuals experienced a

cognitive phenomenon that is very similar to a flow state. Kenny (2008) described this

level of awareness as "inspiration or intuitive flashes" (p. 596). It is this intense focus on

a task or abstract thought that promotes a level of creative self-efficacy or "spiritual

integration" (p. 597). Titchen and McCormack (2010) described this same psychological

experience as "human flourishing" (p. 532). Human flourishing focused on developing a

higher level of growth and development, both cognitively and creatively. It has the

potential to transform existing practices in a given field of study.

Browning (2009) discovered this fact in a case study that involved three

senior high school visual art instructors. The results of the study showed that students

were highly motivated when they used technology to solve visual problems. This new

approach to art instruction does not eliminate the need to include artistic theories or the

foundational art elements and principles but rather it can be taught alongside digital

technology.

In summary, these research studies relate to high school students' creative

development and present possibilities in understanding how creativity emerges in the

high school students' minds. It is the complex combination of divergent and convergent

thinking that helped teenage students establish a pathway toward creativity. Creative

individuals adapted to difficult and new forms of knowledge, like the use of technology,

without a heightened sense of anxiety. This creative process is part of an evolving

biological process, one that is directly tied to self directed learning, hence a means of

intrinsic motivation. High school students, because of their unique experiences with

technology can internalize ideas easily within this educational method. A closer look at what forms the foundation of creative people, a look at creative traits and the traits that they manifest will complement contemporary beliefs on how creativity emerges.

Traits of Creativity. This section will examine the different traits of a creative person. The Creative Learning Assessment also known as CLA was implemented during a quantitative research study conducted by Ellis and Lawrence (2009). A key goal of this research was to determine and define how creative traits were manifested within various academic disciplines. Ellis and Lawrence's research plan was to identify and record specific characteristics such as pleasure in the activity, level of personal enjoyment, task difficulty and engagement, as well as empathy and self-motivation (2009, p.8). Discovered through the analysis of the findings indicated that great moments of creativity were the result of self-reflection. According to Ellis and Lawrence "evaluations and reflections on their learning complete the circle of learning" (p. 8). Self-reflection as part of an evaluation method helped produce a higher level of creativity in problem solving. Researchers in the field of art education, such as Eisner (2005), have also noted the significance of engaging in self-reflection as a way for students to synthesize the concepts and make deeper connections with the content and context of the discipline.

Creativity flourishes in fields beyond the visual arts. For example, Titchen & McCormack (2010) examined the need for creativity in the health and social care system. The purpose of their qualitative research was to establish the development of a person-centered and evidence based program in the health care industry. They found

that "transformational practices," and in this case referring to living, being and doing

established a healthier person (p. 533). A new philosophical, theoretical and

methodological worldview emerged which they call "critical creativity" (p. 534). By

critical creativity they mean the synthesis involving the study of social sciences with

creativity embedded within a historical tradition. By examining the past knowledge of

creativity and understanding how society has changed educational practices, a new

understanding of human flourishing emerged. It is this interplay that involves critical

dialogue and the methodological approaches educators use to stimulate creativity

defining this critical creativity worldview.

At a professional retreat, Titchen and McCormack (2010) interviewed

several participants in the hope of refining their emerging critical creative framework.

Through this phenomenological study, they discovered that when promoting human

flourishing in the health care industry they needed to blend " different types of

knowledge, ways of knowing, intelligences, discourses and creative imagination" to

transform individual lives to reflect a more complete and satisfying existence (p. 535).

With the focus on developing creativity, Titchen and McCormack found that to develop

the body with mindful and moral intent was seen in diverse artistic processes. Being open

to experience was at the heart of the interplay between artistic and cognitive processes

that enabled individuals to develop human flourishing.

Baer (2008) found that the most consistent trait of creativity is called

"Openness to Experience". Baer found in a review of creative personality tests that a

five-factor personality test (Goldberg, 1992) that people who are open to new ideas,

different perspectives, and connect with complex problems on an aesthetic level correlate

strongly with creativity. In a longitudinal quantitative study examining gender differences

on the Openness to Experience factor, Baer examined 230 students twice, when they

were in sixth grade and then four years later when they were in high school. The findings

from the study indicated no differences in creative performance between males and

females, however females tended to score higher on Openness to Experience when

creative problem solving was associated with a category called aesthetics and emotions.

The males in the study tended to score higher on the Openness for Ideas factor. Overall,

this study showed that when individuals engage in learning new ideas and respecting

alternative perspectives both on an aesthetic level, referring here to emotions and

intuition, they are able to produce new and novel ideas. A central goal of Baer's research

was to quantitatively examine the assessments concerned with creativity not necessarily

creative individuals. This study was intriguing and provided some quantitative evidence

to support greater investigation into how creativity emerges in high school students. One

of the key results indicated that embracing new ideas and new methods revealed the

potential to elicit creativity.

Creative intelligence can be traced back to biological research in

creativity. In two exploratory studies by Singer & Singer (2008) and Saracho (2002)

found significant differences in young children's creativity on tests of divergent thinking

(Wallach & Kogan, 1965). In these two studies a relationship between inventive

explorations in early childhood helped students engage in more exploratory and inventive

creative thinking in adolescence. Young students that tended to be more playful, open,

and curious about new situations, helped define an openness to experience. These students were able to solve complex problems creatively. Creative intelligence defined how divergent thinking skills were measured on tests and Openness to Experience was the trait that allowed students to score at a high level on tests of creativity.

An all encompassing category emerged through Baer's (2008) research focusing on traits of creative individuals. This category will be employed in this research study. Baer calls the merging of all of these creative traits as Openness to Experience. The traits that will define this category include classifications by Csikszentmihalyi (1990, 1991, 1996), Lowenfeld (1960), Eisner (2005) and Bohm (1996). This category, Openness to Experience, included individuals' enjoyment with difficult or complex tasks; their ability to engage with the task at hand for many hours; enjoying complex and challenging tasks; not worrying about ambiguity; and the most important trait is the ability to have a sense of playfulness about the task at hand.

This Openness to Experience category, specifically the traits, have been well documented within both historical and contemporary literature however, it has not been assembled in this particular way. To help illuminate this new classification of traits, Amabile (1996) in her componential theory of creativity examined how these particular traits emerged in individuals. Intrinsic motivation was the key to unlocking the mysteries of creativity. The creative process, according to Amabile, will not be fully actualized without intrinsic motivation. Amabile suggested intrinsic motivation as having produced a high level of interest in "cognitively engaging tasks" (p. 108). To solve a challenging problem, individuals who exhibit a high level of intrinsic motivation, immersed

themselves with the problem until a creative solution was achieved. Intrinsically

motivated individuals engaged in a challenging task for the pure joy of thinking not for

an external reward. Including intrinsic motivation as a characteristic to define creative

individuals along with Bohm's (1998) definition of creativity was fully embraced in this

research and became the foundation of Openness to Experience. Both Amabile and

Bohm acknowledged the significance of the person to have a willingness to transcend

conventional ideas.

Prabhu, Sutton, & Sauser (2008) research examined the role of intrinsic

and extrinsic motivation and their relationship to three traits of creativity (openness to

experience, self-efficacy, and perseverance). They suggested, "openness to experience is

closely associated with both intrinsic motivation and creativity" (p. 56). Another way to

view creativity, according to Sternberg (1999) promoted that, "self-efficacy and a

willingness to overcome obstacles, take sensible risks, and tolerate ambiguity" (p. 11).

Being open to experiences allowed individuals to become curious and aware of multiple

perspectives thereby building connections to stimulate cognitive processes.

Although there is very little research associated with creativity and flow

theory, creativity has been examined empirically for over 45 years. Cognitive

psychologists define creativity as a mental process and personality psychologists define it

as a trait. Consistent with historical research and contemporary research in creativity, a

creative person produces unique ideas or solutions to problems. Because the research by

Amabile (1996) and Baer's (2008) focused on different aspects of what makes a person

creative, when combined together their perspectives on creativity have laid out a pathway

for additional investigations. This study will add to the existing literature on creativity by focusing on combining both (a) an openness to experience and (b) intrinsic motivation to support both theoretical and empirical approaches for defining the creative person.

Understanding what it is to be creative is only one perspective on studying the phenomenon of creativity. Divergent and convergent thinking skills come together to aid individuals when persevering to solve complex problems. Cognitive psychologists think of creativity as a process. Creative processes elicit cognition also referred to as higher- level executive functions as well as define the creative-cognitive domain in art education. Neuropsychologists have focused on individual's ability to focus on abstract thinking and problem solving when describing creativity (Delis, Houston, Wetter, Han, Jacobson, Holdnack, & Kramer, 2007). By examining the "cognitive architecture of the brain", neuropsychology has identified cognitive processes that make up the higher-level executive functions (Delis, et al, p. 30). These mental functions associated with creativity are not necessarily associated or assessed on IQ and achievement tests. To fully understand how these mental processes manifest themselves, further discussion on the process will help define what it means to be creative.

The Process + Product

Creativity is a highly cognitive process. Cognitive psychologist are concerned mainly with the process of creativity. Although many would argue that the product is what defines the creative act. Prabhu, Sutton and Sauser's (2008) empirical research outlined the importance of focusing on creativity as a process. Many conflicts exist in defining creativity. By focusing on the creative process, Freedman (2010)

established the modernist perspective or view on creativity to complement Prabhu, Sutton and Sauser's research. This perspective focused on the creative act as reflecting what has come within a historical context. Contemporary art pedagogical methods introduce and focus on more postmodern perspectives giving creativity an ever evolving definition. Through the eyes of both modernists and postmodernists perspectives one key aspect is emphasized, the process is tied intimately to the context, but not necessarily a tangible product. It also depends on whether you are examining an individual creative process or the creative work produced by a group.

This leads to a comparison between both Kenny (2008) and Wilber's (1995) transpersonal stages of creativity. This transpersonal notion of creativity places a significant emphasis on the inner processing of creativity. This inner process might even suggest the emergence of a flow state and can occur in both individual and group activities. Creativity through this lens, emerges and evolves. Kenny stated, "creativity is a characteristic of evolving systems and 'psychic creation', including creation of the self, is a form of evolution, of consciousness" (p. 591). The novel thought or idea that propels the individual or group to act reveals the creative process.

In an empirical research study conducted by Tan, Ho, and Yong (2007) a questionnaire was designed to survey 510 Singapore high school students' creative efficacy. When students had the confidence and belief in their abilities to be creative, it is what defined the concept of creative self-efficacy. The results of the study revealed significant correlates associated with high school students' work style or personality trait and creative self-efficacy, referring to their abilities to problem solve. Exploratory factor

analysis was used to confirm internal validity. The research conducted by Tan et al. illuminated the notion or concept of "flow of chi" (p. 97). This concept stimulated students to think creatively. Chi is a concept that is immersed in transcendence. It is a Chinese concept seen in both philosophy and medicine. It encompasses a larger understanding of life, with a focus on conflicting opposites, visualized as a yin and yang. Within a spiritual understanding, the Chi is the inner energy that brings about a combination of the process and product. It can be seen as a renewal of an idea. The process, product, and environment all come together for a totality of understanding. The environment helps develop students' confidence and competencies to "encourage students to take part in creativity fostering activities" (Tan, et al., p. 97). A renewal of ideas is at the central apex of this concept. It is based on the principle of shared knowledge.

On a similar line of investigation Kenny (2008) and Tan et al. (2007) focused on human biological functioning as a way to define and explore the creative process. Focusing on the biological function of creativity, Sawyer (2006) stated that, "idealist theorists argue that once you have the creative idea, your creative process is done" (58). In contrast to this particular biological philosophy of creativity, creativity can be seen as the beginning of the process not the end of the process. The creative process can be enhanced through an understanding of various teaching techniques that a parent or teacher may practice that encompass student individuality, establishing an emotional bond, encouraging independence, and developing creative behaviors in thinking rather than rules (Amabile, 1996, p. 261).

Biological and developmental stages are significant contributors for revealing or increasing the complexity and frequency of the creative process. Kenny (2008) called this process "creative synthetic" (p. 594). Becoming self-aware of your own creative potential, diminishing self-doubt, allowed for creative self-efficacy to be revealed. Amabile (1996) alluded to this when describing intrinsic motivation as key to "exploration of tasks and activities" encouraging "questioning and curiosity" (p. 261). In her analysis, this creative process can be conceptualized through a continuum rather than as a defined cognitive level. This continuum has many levels of creative awareness. The creative process becomes a fluid concept that has the potential to contribute to society by providing a new and unique product. The creative process occurred at different levels of complexity, thus the continuum analogy, and with an increasing level of creative thinking, students become absorbed in the process. The results, the combination of creative process along with creative production defined creative synthetic. It is a process that is directly in-line with an emotional or experiential union.

In contrast to Kenny's (2008) notion of creative synthetic, Sawyer (2006) proposed varying stages that emerge during the creative process. The creative process involved varying degrees of preparation, incubation, insight and verification. Sawyer's definition of the creative process was much more logical and sequential than Kenny's proposition. Kenny's approach was a conceptualization of a continuum where a student can reach different levels of creative processing, which in the end produces a creative product or solution.

Viewing Sawyer's (2006) stages of creative process through Freedman's

(2010) modernist perspective helped position the creative process within a historical tradition. Advancing Sawyer's ideas about modernism in the visual arts combined previous ideas to generate new constructions or combinations. Sawyer comments that, "without first learning what's already been done, a person doesn't have the raw material to create with" (p. 59). Further stating that creativity can only come from "formal schooling" (Sawyer, p. 60). Within the secondary high school art studio classroom this context plays out within a final product. Either approach to understanding the creative process, whether Kenny's (2008) creative synthetic (a continuum of the process) or Sawyer's creative stages both result with the merging of process and product.

In the visual arts studio classroom and throughout the current research, the focus has been placed on the product. Sternberg (1999) stated, "the importance of the creative product emerged in response to perceived needs for external criteria to which researchers could compare other methods of measuring creativity" (p. 44). By focusing on the artistic product researchers and art practitioners were able to establish varying degrees of creative responses by establishing objective criteria. Traditionally, the art practitioner strives to establish strategies while addressing product evaluation. These strategies are what establish the performance criteria in hopes to establish a level of validity. Experts in the field of visual arts education and creativity have molded the performance assessment that guide student creative products. Assessment of student creativity was solely on the art teacher's feedback. Much of the assessment done on students' creative products comes from the art teacher's feedback. Designing a

curriculum to meet these needs is of great importance to the art educator while providing a safe environment to explore ideas creatively.

The Place

Tanner-Anderson (2010) described how to promote creativity in the high school classroom. Asking students to create something creative required "imaginative interpretation" (p. 12). To address creativity with high school students, Tanner-Anderson created a multimodal project exploring creativity through literature, music, and the visual arts. By designing an integrated environment that included analysis of musical lyrics and artistic representations helped students understand literature producing deeper understanding and more reflective interpretations. By allowing students to select literature that could be represented in either a musical or artistic format enabled them to produce authentic and original writing.

Forrester and Hui (2007) also discovered the context of creativity in the classroom as centered on originality and appropriateness of the curriculum. Forrester and Hui studied the creativity of primary school students in Hong Kong. They found that students who create original solutions to a problem required programming that gets away from compartmentalizing subject disciplines and that transforms the concept of creativity to become a more integral part of everyday thinking. The design of the study involved a convenience sampling of 27 teachers from five geographically and economically diverse Hong Kong primary schools locations. After several classroom observations, Forrester and Hui, examined whether or not the teacher's own creativity had an impact on student creative products.

Two questionnaires were also used to survey teacher's creative personalities and their perceived ability to foster creativity in children. Significant differences were found in how teachers of different subjects foster creativity in children. The results indicated that teachers that focused on group discussion and problem-solving positively correlated to students' creative products. When students were given the chance to verbalize their knowledge of a subject and to self-evaluate their work helped produce a higher level of individual creativity.

Constant changes that emerge in art education and any creative field challenge and transform how we view the concept of creativity. One major change has been seen in the use of technology. The use of technology can stimulate teenager learners creatively. Technology changes at a rapid speed. These advancements in technology can stimulate challenges for the high school teenager. Technology processes and expanded ability to provide for many digital interfaces helped promote more online activities that foster creativity.

Tillander (2011) proposed an increase in the use of technology within the visual arts curriculum to promote creativity. High school teenagers have grown up with technology and it has been easily assessable. High school students are referred to as "digital natives" (Prensky, 2001). Being classified as a digital native means that you grew up with technology as an aid in expanding your learning for both social and personal enjoyment. Digital natives do not know a world without technology. Teenagers can quickly adjust to new information and processes that are communicated through technology. According to Black and Browning (2011) supportive high school programs

"establish creative, student-centered classrooms in which co-learning and collaborative learning takes place between teachers and students" (p. 19). This becomes the foundation for new pedagogical methods in the visual arts and has transformed how creativity manifests itself within 21st- century classroom.

However, it is not technology that promotes creativity; rather, it is a tool in motivating students to engage with complex ideas creatively. The actual teaching and the type of environment for learning are what stimulates and engages students and keeps them intrinsically motivated. Students that use digital technology to express themselves creatively tend to "spend more time digitally exploring, rather than just completing assignments" (Black and Browning, 2011, p. 21).

The research done by Black and Browning (2011) supports Amabile's (1996) componential theory of creativity suggesting that teachers who foster creativity and allow students to verbalize their mastery of knowledge expand student's ability to become "flexible in thinking" (Forrester and Hui, 2010, p. 35). Flexible thinking and self-evaluation can lead students to focus on their own abilities, developing a level of creative self-efficacy. Promoting student's creative products as shared knowledge is a way to break down curricular boundaries.

Byrge and Hansen (2009) established an educational framework called the creative platform to address the methods used in classrooms. Byrge and Hansen promoted creativity as a new discipline. In their research creativity was defined as "the unlimited application of knowledge in thinking and doing" (p. 236). To have a student create a product or solution is "at the top of human capacity" (p. 236). Producing a

creative solution or product required individuals to transcend disciplinary, cultural, and social boundaries, thus to break patterns controlled by thinking. "The key to letting go of patterns is to remove judgment from the learning process" (Byrge and Hansen, p. 236). To help students produce creative products or solutions required an ability to break conventional rules in education. Removing judgment and focusing on sharing knowledge and making conceptual connections builds that ability for students to experience what Byrge and Hansen call "horizontal thinking" (p. 239). Horizontal thinking is the ability to find disciplinary connections and to build an awareness of consciousness. The creative platform included the ability to construct knowledge through four pillars of horizontal thinking: (a) parallel thinking, (b) task focused, (c) no judgment, and (d) diversified knowledge. Together this builds the creative cognitive domain in art education and helps promote a learning environment that is supportive of many creative ideas and solutions.

It is clear from the foregoing discussion on Byrge and Hansen's (2009) creative platform to construct creativity into horizontal pillars of knowledge. This has many similarities to Kenny's (2008) proposed creative synthetic which conceptualized creativity on a continuum. It can also be compared to Sawyer's (2006) stages of creative process they all focus on individuals' ability to control their conscious thinking. By examining the person, process, and place of creativity helps position this psychological phenomenon within the creative cognitive domain.

Creativity can be conceptualized as a continuum or through stages, however to establish this optimal experience, creativity, individuals' reflective thought initiate inspiration and intuitive flashes that lead to creative self-efficacy and what Kenny

(2008) called "spiritual integration" (p. 597). It is this Openness to Experience (Baer, 2008), the characteristics or traits associated with individuals that help define creativity. These traits are also woven closely with intrinsic motivation to initiate creativity. Without this openness to experience and intrinsic motivation, optimal experience cannot be self-actualized. Being able to control consciousness, focusing the mind on a meaningful task defines Csikszentmihalyi's (1990) Flow theory. By understanding what it means to be creative, a closer examination of flow theory will help build this connection.

Flow Theory

This section of the literature review will focus on the current research within emotional, cognitive, and psychological realms. Before examining these three domains, further description of the emotional, cognitive, and psychological realms will be discussed.

Csikszentmihalyi (1990) included varying characteristics of a flow state. The ability to stay extremely focused on a task is one of the traits. It is the "mark of a person who is in control of consciousness is the ability to focus attention at will, to be oblivious to distractions, to concentrate for as long as it takes to achieve a goal" (p. 31). This is an optimal experience, something that is desirable in an educational setting. Delle Fave (2009) posits that optimal learning required an integration of emotional, cognitive, and psychological realms to produce a heightened multifaceted experience.

Cseh, Phillips, and Pearson (2014) collected a series of interviews with

artists, athletes (mountain-climbers), and surgeons and found that being in the zone, a flow state, was purported to have positive consequences on creativity by linking the experience to stimulate mental synthesis. Through a series of pre and post questionnaires, the participants self-rated creativity with a flow experience thus providing them to stay motivated on the task persevering through difficult stages thus enhancing personal satisfaction and providing a direct cognitive enhancement. This optimal state of consciousness resulted from becoming highly focused on a creative task.

This type of optimal learning experience is desirable for teachers to foster in a high school art classroom. By connecting to students through an integration of emotional, cognitive, and psychological realms provides an atmosphere of trust that elicits creativity. This synthesis that produces a heightened consciousness is referred to as a flow state. By examining high school students' perceptions of what it means to be creative has helped reveal what Csikszentmihalyi (1997) has dubbed 'flow experiences'. This potentially new way of understanding how creativity emerges has great social change implications for high school art reform initiatives.

Csikszentmihalyi (1990) has studied flow experiences in both qualitative and quantitative studies. Through his research, he has identified nine elements that help define and describe the experience. The results of the research revealed that participants' verbal descriptions of how they experienced a flow state, which he summarized as (i) challenge-skill balance; (ii) action-awareness merging; (iii) clear goals; (iv) clear feedback; (v) ability to concentrate; (vi) sense of control; (vii) loss of self-consciousness; (viii) transformation of time; (ix) autotelic experience (state of positive affect associated

with intrinsic motivation). This induced state of consciousness helped "make a task intrinsically rewarding" (Manzano, Harmat, Theorell, and Ullen, 2010, p. 301). Flow is experienced and promoted in sports, business, technology, education, as well as the arts. Inclusive of the various learning domains, flow can be a highly social or a very solitary experience. The review of current literature and the definitions of the flow experience have been organized into three common aspects that embrace the nine elements namely: (1) a sense of deep involvement (absorption); (2) positive feelings of enjoyment (enjoyment); and (3) interest in performing the activity (intrinsic motivation) (Rodriguez-Sanchez, Schaufeli, Salanova, Cifre and Sonnenschein, 2011, p.75).

Flow is a very subjective and personal experience and is associated with strong feelings of "enjoyment and positive affect" (Rodriguez-Sanchez, et al., 2011, p. 302). Because flow is linked with affect and arousal it conforms to an emotional context. Emotion plays a role in how individuals perceive their ability to perform on a task whether it is stressful or enjoyable. The more pleasant the task involvement, the more likely individuals will experience arousal that tends to keep them fully engaged in the task. This is what defines task absorption. When individuals are fully absorbed in a task they tend to express a level of enjoyment. Enjoyment and joy are also connected to an emotional context. Therefore, a flow experience can be measured or described through individual's perceptions based on emotion.

In an empirical study conducted by Rodriguez-Sanchez, et al. (2011) they examined how piano playing was used as a flow inducing activity. This flow experience was analyzed through five different self-reports of flow experiences from professional

classical pianists. The researchers measured dimensions of flow producing a four-part dimension graph that represented a correlation between emotion and engagement, later defined as psychophysiological in this study. The psychophysiological referred to participant's measures on cardiovascular and respiratory functioning and electromyography (EMG) readings. The level of attention was directly associated with cognitive ability. The researchers suggested that when individuals enter into the flow state with a highly complex task, a great level of attention becomes effortless. This state of mind is referred to a positive affect of flow. The term mental effort was used to describe psychophysiology. It is also defined as effortless attention directly associated with a flow experience. The high levels of concentration are directly associated with individual's cognitive abilities.

Contrasting Csikszentmihalyi's (1991) description and conceptualization of what happens in a flow experience was presented in a phenomenological study conducted by Banfield and Burgress (2013). Banfield & Burgress interviewed both 2-D and 3-D artists and video recorded them as they were in the mist of creating art. Through analyses of the interviews and review of the videos revealed that 2-D and 3-D artists did not have the same flow experiences. Flow was not revealed in the minds of the artists, suggesting a precognitive engagement proposed by Csikszentmihalyi, this study showed different flow states through the construction of meaning-making in the artistic process. The 2-D artists experienced flow states while creatively engaged with the process of making and the 3-D artists revealed a flow experience only after the product was created.

Both the process and product can stimulate a flow experience, the key factor being the focus on a psychological realm of the creative encounter.

The psychological realm can be defined as a state of mind associated with high concentration, paying close attention to a task thus stimulating arousal and promoting or fostering an optimal experience. The psychological realm cannot occur without an emotional and cognitive connection. Within a flow experience a collective weaving of these realms produced this heightened, optimal state of mind. The flow experience, much like creativity and cognition can be seen as revealing itself on a continuum. Individuals can experience a flow state at different lengths of time within a combination of the three different categories that help describe a flow experience, (a) absorption, (b) enjoyment, and (c) intrinsic motivation.

Absorption

Empirical studies by Delle Fave (2009), Walker (2010), Rodriguez-Sanchez et al. (2011), and Martin & Jackson (2008) produced evidence that the flow state is variable when it comes to the amount of time and the length of the state. Evidenced through their combined research studies, amount of time in a flow state established the 'core' state (Martin & Jackson, 2008, p. 141). Therefore individuals either experience a short core state or a long core state. At either ends of this spectrum a flow experience can be achieved. Comparing and describing the flow experiences found in general academic subjects, musical performances, dance, mathematics and sports allowed Martin and Jackson to determine positive correlations to the amount of time in the core flow state. The longer the core flow state, the more rewarding the activity and thus the desire to

repeat the experience, though it was clear from the data collected that the short and long

core flow states were not the same psychological construct.

Martin and Jackson (2008) examined a short flow state within physical

activity. Based on the nine elements of a flow experience from Csikszentmihalyi's (1990)

qualitative research helped Martin and Jackson construct a psychometric inventory. The

inventory was comprised of items taken from each of the nine elements found on the

Flow State Scale (FSS) and the Dispositional Flow Scale (DFS) developed by Jackson

and Marsh (1996). The psychometric inventory went through confirmatory factor

analyses to help assess construct validity. Both internal and external validity were

addressed. The internal structure of the instrument was assessed through empirical

techniques specifically confirmatory factor analysis and external validity were achieved

by employing statistical procedures to examine relationships between measures of flow

and the instrument.

Martin and Jackson's (2008) study examined the links between motivation

and engagement in both short and long core flow experiences. Their main aim was to

determine whether a short flow experience was just as meaningful as a long flow

experience. The results of their study suggested that when individuals are totally

absorbed on a task, different depths of cognition occur depending on the length of the

flow state. The longer an individual experiences the flow state during an activity the more

joy is experienced. Martin and Jackson posit that during a longer flow experience, a

higher level of understanding and psychological connectedness is achieved. Motivation,

engagement and attention significantly improve during either a short or long flow

experience. However, the longer the flow experience the closer individuals get to absorption.

Several researchers that have studied flow experiences (Jackson and Marsh, 1996, Jackson & Martin, 2008, and Csikszentmihalyi, 1999) used a multi-item and multi-factor flow scales comprising Flow State Scale (FSS) along with a dispositional version of the instrument, Dispositional Flow Scale (DFS) (Martin and Jackson, 2008, p. 142). These instruments assessed the frequency of individual's flow experience in a specific activity.

Martin & Jackson (2008) assessed the validity and reliability of these two flow scales when describing personal absorption. Although the results of the study showed short flow experiences were evident in physical activities, an interesting difference was detected during a longer flow experience. A longer flow experience demonstrated that the level of absorption or engagement "taps into the phenomenology of the experience itself" (p. 143). This suggested that flow experiences are consistent with the original subjective and personalized optimal experience that is the underpinning of flow theory. It is the longer flow state that 'captures the central subjective optimal experience" (p. 143). To examine and explain the subjective optimal experience, participants referred to this state as "in the zone", "totally involved", and feeling as if "everything clicks" (Martin and Jackson, p. 143). Whether experiencing a flow state within a group or as an individual, one commonality was that it crossed and emerged in multiple disciplines. Although these studies focused on joy as the outcome of

experiencing the flow state, other researchers have found that flow occurred in many situations both positive and negative.

Martin and Jackson (2008) used the short flow instrument in a large sample of high school students; 2,229 students from an Australian high school participated in the study. By examining their relationship with motivation and physical activity on the short flow instrument along with self-reported activity levels helped determine that the short flow instrument was a reliable indicator of a flow experience. Reliability was determined using the Cronbach's alpha scale with the results indicating .82. This result indicated a good preliminary support for the validity of the short flow instrument to examine absorption, enjoyment and motivation.

Enjoyment

Walker (2010) examined flow using a survey and two experiments with 96 college students. The results of his empirical research revealed levels of flow, social and solitary. The primary hypothesis of this study was that more enjoyment would be found in social flow experiences. Analyzing participant feedback provided a different finding. Walker's participants described being in a flow state as intrinsically rewarding and was a "highly absorbing state in which people lose a sense of time and the awareness of self" (p. 3). Through the organization and examination of the data collected, four qualifiers were identified. These four qualifiers need to be evident in a flow state. Walker organized these qualifiers: (a) feeling the freedom of making your own choices; (b) have very clear goals; (c) being provided with clear feedback and; (d) having the challenge level of the task complement the ability of the individuals. According to Walker, it was not the pure

engagement within a social group that allowed for flow to emerge, it was the feeling of interdependence among the members that allowed for a flow state to be enjoyable.

It should be noted that not all flow states are positive. Delle Fave (2009) suggested that optimal experience can be stimulated by unpleasant or offensive experiences. It is the association between a psychological connections that brings about a meaningful experience to fully define a flow state. Periods of great stress or conflict can also force a person to enter a flow state through continued attention on the issue. However, most of the research examining the flow experience focused on the joyful outcome of the experience.

Life presents everyone with good and bad experiences thus shaping who we are as individuals. Cultural identify aids in the awareness of a flow state. In reflection, Delle Fave (2009), Csikszentmihalyi (1990), and Massimini (2004) created new instruments to measure flow experiences within a cultural context. The instruments are the Flow Questionnaire (FQ) and the Life Theme Questionnaire (LT).

To implement the questionnaires, Delle Fave (2009) recruited over 900 participants with differing cultural backgrounds. Through analysis of the questionnaires, two cross-cultural categories emerged: engagement in productive work and through structured leisure activities (sports and the arts). These two categories dominated during the organization and analyses of the questionnaires. Indonesian, Iranian and Italian girls described their flow experiences during religious practices. Shaw (2005) helped define spirituality as a way to understand individual belief systems not based on "scientific evidence but is lived as if it is true" (p. 350). The flow state was considered a mystical

experience. Piassa Rogatko (2009) argued that it was important to study the flow state

"because it may be linked to positive emotions, the development of skills, improved

performance, and achieving a meaningful life" (p. 133). It became a way to build

enjoyment throughout your life.

Rodriguez-Sanchez et al. (2011) examined how to achieve a meaningful

life through the use of an electronic diary kept by one hundred individuals working

throughout a 14 day period. The participants fell into two categories, those that are fully

satisfied with their jobs and those that are considered burned out. Five electronic entries

were collected from each participant throughout the day. The study indicated that

enjoyment was higher during non-working tasks whereas absorption was higher when

working. Surprisingly, there were no differences seen in the two categories: regular

workers and burned-out workers. The study showed that when both challenge and skill

levels were high, individual workers seemed to experience joy. The participants also

described stretching their capabilities and learning new skills helped increase their self-

esteem and enjoyment level (Rodriguez-Sanchez et al., 2011, p. 76). Although flow

scores for happiness and satisfaction were higher during leisure time, the participants

suggested that the flow state was evident during "challenging activities that required high

levels of personal skill" (p. 79). Flow was conceptualized as a continuous variable

including both an emotional component (enjoyment) and a cognitive component

(absorption). In contrast, certain cultural groups in Delle Fave (2009) cross-cultural

research on flow experiences directly associated flow with rigorous educational

experiences.

Intrinsic Motivation

Having a safe and comfortable family life allowed these students to enter a flow state. Understanding and examining a flow experience within various contexts helped build a stronger connection between creativity and flow. Zaman, Anadarajan, and Dai (2010) explored how the flow state was experienced with young adults in the work place. The study investigated if instant messaging (IM) helped employees become more creative at work. Flow was conceptualized and identified within Trevino and Webster's (1992) four dimensions of flow. The four dimensions were identified in the field of technology. The four dimensions were (a) control over the interaction with technology; (b) attention focus; (c) curiosity and heightened arousal of senses; and (d) intrinsic interest in the activity (p. 1011). Through a series of questionnaires, Zaman et al. discovered that flow experiences were positively related to individual's perceived creativity and the ability to stay motivated (p. 1012). One key aspect to this relationship between creativity and the flow state was directly related to the challenge level of the task, individual skill level, and staying motivated. Curiosity and intrinsic motivation were ultimately combined in this study to form a new category called cognitive enjoyment.

Burgess and Ice (2011) also examined cognitive enjoyment among college level developmental readers and found that the ability to critically think, communicate, collaborate, and problem-solve was realized in "*Second Life*, a multi-user virtual environment" (p. 429). The use of technology in educational platforms can transform the structure of education. Many secondary and universities are looking at virtual education to save money and to engage students with activities that result in arousal of the senses

and with the hopes to elicit a flow experience. The flow experience can be the cognitive, affective, and physical components that produce intrinsically motivated students. Burgess and Ice discovered that one advantage in technology driven learning platforms was that "once the task is achieved, the complexity of the activity should be increased to develop new skills and meet new challenges" (p. 433). Keeping intrinsic motivation high helps students reach a flow state. Virtual worlds could become potential pathways to enhancing student engagement and thus leveraging flow experiences to achieve learning outcomes.

Gaggioli, Mazzoni, Milani, & Riva (2015) conducting an exploratory study using students from a Media Psychology course at a public university to test a new instructional method that used social networking as a platform. They found that when courses are structured within a blended model, including both face-to-face instruction and virtual instruction, that students tended to experience a flow state while creative problem-solving in small groups. An optimal learning experience was evident in the surveys provided by the students after the twelve-week course ended. The researchers concluded that to foster creative collaboration and to stimulated dynamic in-class discussions can be determined through the use of social networking in a virtual environment.

When examining flow a common denominator across all disciplines was the ability of an individual to stay motivated for long periods on a certain task, Manzano, Harmat, Theorell, & Ullen (2010) focused on the psychophysiology of flow during piano playing. Because flow was perceived as happening within a certain length of time depending on the task at hand, it could be conceptualized on a continuum. It was not an on-off experience. It happened within degrees that can be studied through neural

structures and pathways. It was the ability of the brain to access previous knowledge that has been stored to facilitate a flow experience. Manzano et al. stated, "Expertise is likely to facilitate sustained attention, reduce distractibility, and promote many, if not all elements of flow" (302). Manzano et al. examined how emotion and attention were manifested in physiological measures: "cardiovascular function, respiration and electromyography (EMG)" (p. 302). This empirical study focused on individuals experiencing flow during piano playing. This study helped demonstrate that the flow state has a very unique physiology. The researchers found that an increase in flow state was associated with: "(i) decreased heart period; (ii) increased cardiac output (decreased HP and increased BP); and (iii) increased respiratory rate" (Manzano et al., 2010, p. 303). EMG, cardiovascular and respiratory measures were all measured and showed a significant change with the musicians as they entered what they self-reported as the flow state. This study illuminated a psychophysiology connection to the flow state. It suggested how flow improves intrinsic motivation and yields a positive effect on mood as well as other health promoting therapies.

A longitudinal study conducted by Csikszentmihalyi (2006) focused on talented teenagers in mathematics, science, music, athletics, and the arts. The main goal of the study was to focus on what helped students stay motivated. The empirical underpinning of student motivation was centered on activities that foster creativity. The flow model for optimal experience was used as the study's framework. Garces-Bascsal, Cohen and Tan (2011) focused on programming and interventions to keep teenagers motivated. Artistically talented teenagers have become an under recognized and

understudied area in art education (Cukierkorn, 2008, p. 26). Earlier studies focused on indicators that helped young artists stay focused. Garces-Bascsal et al., found that student "artists' quality of learning experiences was linked to eventual commitment to their art forms (p. 195). This research focused on a recent upsurge in fostering creativity in Singapore's secondary arts curriculum.

Singapore has recently established the Ministry of Information and the Arts and the National Arts Council (NAC) as an effort to support more arts experiences for teenagers in school. Strategically, Singapore was labeling themselves as the leaders in "Asian Renaissance in the 21st century" (Garces-Bascsal et al., 2011, p. 195) by placing a strong focus on innovation and creativity. The structure of their newly emerging arts programming for secondary education was based on the International Baccalaureate system and used the arts as a gateway to learning in other disciplines. While the study (Garces-Bascsal et al., 2011) tapped into the students' views on creative teachers it did not examine the voices of the teenagers in this specialized arts initiative. Freedman (2010) also examined the creative process in his specialized school that focused on the arts and what he called peak experiences.

Freedman (2010) described a philosophy of educating for life as "it involves interaction, relationship, emotion, inspiration, complexity, community, creativity, and self-expression" (p. 17). By comparing dance and poetry produced by 8-year-old students at his school, Freedman found that when students were motivated and passionately involved in an activity, a flow state was achieved. It was the right blend of challenge and intrinsic motivation that created the peak experiences. It is the peak

experiences that helped produce creative responses from students. According to Freedman, reaching for exceptional creativity as a regular part of a classroom culture also required "that the students have teachers and mentors who are, themselves, highly engaged and passionately creative people" (p. 21). This statement does present some challenges to educational institutions and therefore could easily be debated in the classroom setting. However, these moments that are actualized within the classroom setting help bring learning to life. It is the intrinsic motivation of students and the ability of teachers to produce an environment that focuses on "moments of flow and peak experiences representing the creative outpouring of a dynamic in-and-out process" (Freedman, p. 22).

Hamilton (2013) contrasts Freedman's (2010) philosophy on educational approaches. Hamilton challenges the current assumptions about accountability in favor for pedagogies that include both a progressive and back-to-basics themes with emerging technology. Hamilton proposes a integration of cyber-learning tools to facilitate creativity and flow-like experiences for learning. When students experience a flow-like state while learning new concepts, using the media that engages them, they will leave satisfied and skilled instilling moments of authentic creativity. Examining the structure of the classroom environment needs to be viewed through aesthetic theory where creativity is positioned within a cognition.

Aesthetics

Two realms of aesthetic theory guide understanding of creativity and flow

theory. White (2011) described a traditional perspective called the Kantian inspired

understanding of aesthetics as opposed to the Deweyan inspired perspective, seen as

pragmatic. These philosophical perspectives on aesthetics illustrate the work done by

both Immanuel Kant (1724-1804) and John Dewey (1859-1952) respectively. These two

perspectives provided interpretations of the visual world. Allowing multiple

interpretations to be valued encouraged individuals to define intrinsic qualities that make

up the concept of creativity. The Kantian perspective viewed the visual arts as being

based in intrinsic pleasure producing a more phenomenological philosophical response.

On the other hand, the Deweyan perspective viewed the visual arts through a more

formalist approach focusing specifically on the content of art. Both perspectives allow

high school students to enter into an aesthetic encounter. Some reactions are based in

emotion while others on formal elements and principles. Here is where aesthetics and

flow theory live, the physiological and psychological states of awareness.

Aesthetics is a physiological and psychological construct where a flow

state emerges. It is an awareness based on the senses. Examining how students encounter

art is an aesthetic experience that helps describe what it means to experience a flow state.

Aesthetics is a branch of philosophy where art is at the core. According to Parsons and

Blocker (1993) "aesthetics is the analysis of the ideas with which we think about the arts"

(p. 6). Within the practice of aesthetics, problems of meaning-making and creative ideas

are questioned and the ways students think about and reflect upon their own artistic

creations and the art created by others. These experiences help build the creative-cognitive domain in this study.

Baurain (2010) defined four foundational concepts associated with aesthetics. When defining aesthetics the attention is placed on the acts of the mind as opposed to the final products. Baurain described the foundations of aesthetic education by suggesting that the classroom needs to reflect, "play, relationality, process, and flow" (p. 51). In Baurain's essay he provided extended analogy between classroom aesthetics and the sport of soccer within a postmodern lens, which means focusing on developing creativity and fluidity. It is the unfolding of the encounter with art that helps construct meaning and make connections to help inspire students to engage on a creative level when making art. Baurain suggested that even scoring a goal in soccer is just a "microcosm of the whole" (p. 50). It is just one part, the making of art or the scoring of a goal in soccer build meaning for the students. Aesthetics becomes a basis for classroom arts instruction and for understanding whether a flow state was experienced.

An in-depth analysis into Baurain's (2010) four foundational concepts in aesthetics will help define the aesthetic classroom. Play, according to Baurain, is "having fun and inspiring joy" (51). A sense of freedom is associated with play because rules are agreed upon and are intrinsic to the "spirit of play" (p. 51). Much like Baurain, Bruner (2006) also equated play with creativity by stating it has the ability to create "effective surprise" (p. 9). Bruner continued to illuminate the freedom associated with play by suggesting that much like play, creativity is "the letting-go" and "creativity requires both the spark of inspiration and careful skill" (p. 10). Aesthetics adds to the playful

environment of the classroom. Baurain continued, "aesthetic playfulness in teaching and learning can be seen in a brief, unplanned moment" (p. 53). Baurain asserted that the best kind of "play is serious players must be fully absorbed in the game" (p. 52).

When examining Baurain's (2010) concept of relationality he was describing the interaction between the teacher and student. This educational relationship created "a rhythm of movement, a back-and-forth pattern" (p. 55) where equilibrium is reached. He further stated that rhythm and resistance are fundamental to the aesthetic classroom environment. Resistance, in other words, is needed for students to experience cognitive growth. According to Baurain, "resistance often comes in the form of new content or skills, and the growth is known as learning" (p. 55).

Process is another concept Baurain (2010) described as an essential aspect to an aesthetic classroom. Going back to Baurain's soccer analogy explained what was meant by process. Baurain explained, "that the process or in-betweeness of any game absorbs or transcends individual players" (p. 57). What was happening in this aesthetic classroom involved a joined understanding and appreciation of all participants. When this unity becomes established, aesthetics becomes part of a totality of the group. Play fills individuals with the attitude to transcend consciousness and enjoy the moment of the activity. Play as a phenomenon elicits a flow state bringing forth an aesthetic encounter. It has become the complete focusing of attention on a particular activity or artistic encounter that absorbed the mind and produced the state of flow. For Baurain, embracing aesthetics within the curriculum "will lead the student to unanticipated, rather than predicted, outcomes" (p. 58).

Many of the thoughts suggested in Baurain's (2010) essay on aesthetic education provided an illustration of Csikszentmihalyi's (1990) concept of flow. Baurain suggested, "flow can be experienced in any area of life" (p. 59). Flow described the moments when individuals become immersed in an activity, and transcend time. In a flow state individuals have very little conscious awareness, Baurain suggested that it also included "an exhilarating sense of transcendence, of belonging to a larger whole" (p. 59). This type of absorption brought about a heightened level of understanding that resembles, "those states of ecstasy that religious disciplines reach through ritual, prayer, or meditation" (Baurain, p. 59). The feeling involved a merging of body and mind, where the task at hand feels effortless. It was a state of being that allows for great clarity of thought. It was the interplay of these concepts, play, relationality, process, and flow that build the aesthetic experience.

In contrast to Baurain (2010) study focusing on the transcendence of the aesthetic experience, White's (2011) phenomenological study investigated four student's interaction with artworks. The study was designed to track participant's encounter with an artwork and then providing written responses documenting reflections of the experiences. The difference between these studies examined how White described and defined three specific approaches to studying aesthetics, "(a) aesthetic concepts (b) aesthetic experience (c) aesthetic objects" (p. 3). White followed Dewey's (1958) perspective on aesthetic experiences. Basically the main feature of Dewey's position was that individuals must have an experience actually experience something aesthetically to produce something physiologically.

Aesthetic experiences, much like flow, can be experienced within a short

or long period of time. When describing aesthetics the terms used are surface or depth

experiences. A depth experience, according to White (2011), "demands a distancing of

oneself from the sensuous immediacy of the image in an effort to arrive at a mediated

critical judgment" (p. 4). The level of interpretation that helped individuals dive into the

meaning of the artwork and thus prolong the aesthetic experience built emergent

meaning. White addressed this in his study by looking at the interpretive and the

phenomenological variables that make up an aesthetic experience. The research study

was highly influenced by Husserl's notions of intentionality (White, p. 5).

White (2011) developed what he called "aesthetigrams" to map the

process of the individuals viewing the artwork in a museum setting. Aesthetigrams are

concrete written responses of the individuals' experience artworks. The process involved

explaining moment-by-moment the individuals' thoughts and feeling while viewing

artworks. It then isolated the experience into categories that had various descriptive

features. For example if an individual finds the color appealing, did it trigger a memory

or did it help develop meaning? These categories were "perceptions, memories, and

comparisons" (White, p. 7). White found, using four adult participants and viewing two

specific images in a gallery, was that personal meaning was based of individual's value

system. The art images that had personal relevance to the participant grabbed their

attention for a longer period of time, thus producing a richer aesthetic experience. White

also discovered that recording aesthetic experiences through reflective writing practices

"demonstrates the capacity for the imagery to foster meaningful engagement and a basis

for dialogue" (p. 21). The aesthetigrams developed by White, helped these individuals reflect on their experience while analyzing artworks resulting in an aesthetic experience.

The study of aesthetics has been predominantly been studied qualitatively in the humanities. In contrast, Tschacher, Kirchberg, Van den Berg, Greenwood, Wintzerith, and Trondle (2012) applied scientific methods for discovering the emotional and physiological aspects of aesthetic experiences. Data was collected from 373 participating adult visitors to a special exhibition in a museum. Participating visitors were asked to wear an electronic glove that recorded heart rate and skin conductance while viewing the exhibition. A questionnaire was used to help determine emotional and aesthetic responses from the participants when viewing the art exhibition. This quantitative study compared the Kant approach in traditional aesthetics, which means that the structure of an arts experience is designed around a "deductive-aesthetics" (p. 96). The deductive-aesthetic was defined as a top-down perspective. In contrast, the "bottom-up" approach advocated by Hume helped experimental psychology advance because based on "beauty is not inherent to the object but dwells in the consciousness of the viewer" (p. 96), which provided a more intrinsic 'bottom-up' approach for reasoning. Comparing Kant and Hume's positions on aesthetics revealed both the philosophical (object-oriented) and the psychological (subject-oriented) aesthetic traditions.

Tschacher et al. (2012) studied the responses of selected individuals that attended a special exhibition at a museum in Switzerland for two months during the summer. The participants had to be over 18 years old and could not be part of a group or tour. Data was collected from 517 visitors (61.9% female). On average, each participating

visitor spent an average of 28 minutes in the exhibition. The volunteers that participated in this study wore a glove on their right hands that collected skin conductance. Both electrodermal and cardiac physiology was monitored through their visit to the museum. Specific data was collected and processed using advanced software programming, "conductance and cardiac signals were preprocessed by a programmable micro-controller (PSoC, Cypres Semiconductor) in the glove" (p. 98). Both the heart rate and the activation of the sweat glands were regulated by the nervous system. Heart rate was correlated with arousal through emotions, which was associated with aesthetic experiences. The sweat glands represent the automatic nervous system (ANS) that regulates body functions. According to Tschacher et al., "there is often an emotional and/or cognitive aspect to ANS activity" (p. 98).

The data collected from the visitors was statistically analyzed using a classic multivariate analysis of variance (MANOVA) procedure. The MANOVA indicated a significant "overall linkage between aesthetic and physiological variables" (p. 99). This was the first study to statistically document how aesthetic experiences are manifested in individuals physiology. This study helped bridge the philosophical and psychological traditions found in the study of aesthetics. Both emotion and cognition became part of an aesthetic experience.

Cognitive Structures

The ability of the brain to retain knowledge is a result of cognitive structures. Curiosity is at the root of cognition. Harding (2010) built on this notion of curiosity by stating all cognitive processes involve seeking out answers to questions.

"Creativity and change are inexplicably linked, because a shared aspect of humanity that motivates change inspires creativity is imagination" (Harding, p. 51). Imaginative solutions, the ability to take risks and the courage of your investigative path through knowledge is guided by the concept of creativity. These are traits of successful leaders in all academic and social realms. Imagining many solutions to one problem is a basic characteristic of divergent thinking. As stated earlier the merging of divergent and convergent thinking provides the pathway toward creativity. Building cognitive structures required this willingness on the individual's part to undertake activities and tasks that have mysterious and at times allusive results. Building this cognitive-creative domain in art education is of central importance for the art educator.

The basic structure of the cognitive-creative domain has great social change implications for furthering art pedagogical practices. Helping students "realize their potential through creativity" in a significant step forward in advancing art education (Harding, 2010, p. 51). Hope (2010) stated, "there is a strong connection between the type of thinking necessary for creative work in the arts and the type of thinking necessary for creative work in other fields" (p. 39). Hope's empirical research recognized the complexity of creativity while still identifying meaningful connects that occur in the brain when this cognitive- creative domain is advanced. Through analyzing Hope's research findings, which consisted of responses from participants, the research methods altered the thinking conditions every five minutes to examine the flexibility and creative results of individual's creative choices and decisions. Themes were established through the analysis to further what Hope advanced, "the right kinds of stable frameworks are a

necessary condition for creativity" (p. 40). Building on the cognitive-creative domain furthered the concept of creativity by basing the teacher - student relationship on positive feedback.

Positive Psychology

The psychological and physiological experience called Flow theory is realized through positive encounters with the activity or task at hand and also through the relationships between individuals. Entering into a flow state could be the by-product of positive psychology. Both Flow theory and Positive psychology are built on the notion of optimal experiences. Positive psychology was described by Norrish and Vella-Brodrick (2009) as "an umbrella term for work that investigates the conditions and processes that foster happiness, optimal functioning, and mental wellness in people" (p. 270). Both positive psychology and flow function through a notion of peak experiences that result in rewarding experiences that individuals want to engage in more frequently. In the words of Csikszentmihalyi (1990), "flow is the way people describe their state of mind when consciousness is harmoniously ordered, and they want to pursue whatever they are doing for its own sake" (p. 6). Entering a flow state provided individuals with great happiness and deep feeling of self-worth and satisfaction.

Norrish & Vella-Brodrick's (2009) empirical study discovered individuals, when surveyed, were more likely to describe self-motivation that enabled them to enter a flow state. According to Norrish & Vella-Brodrick, "flow results when an individual is participating in an inherently motivating challenge" (p. 276). Examining aspects of

positive psychology allows for a deeper understanding of this optimal state of existence.

Another differing approach to analyzing and understanding flow and creativity is viewed

through the lens of psychometrics.

Psychometrics

Torrance's (1988, 1995) defined creativity through the lens of scientific

investigation:

I have tried to describe creative thinking as taking place in the process of (1)

sensing difficulties, problems, gaps in information, or missing elements; (2)

making guesses or formulating hypotheses about these deficiencies; (3) testing

these guesses and possibly revising and retesting them; and finally (4)

communicating the results (p. 44).

Here the definition is unique because through the scientific perspective, Torrance

associated creativity with a flow state. Here the term creative episode is analogous to a

flow state. The creative episode builds new structures both cognitively and creatively.

Perkins (1988, 2011) adds to this scientific perspective by stating that

creativity can only emerge when the brain combines information, thus the cognitive-

creative domain. He further explained that creativity emerged when a person deals with

idea combinations. Perkins called this the "combinatorial explosion", and "mindfully

directed" experiences (1988, p. 45). Having original or unique solutions to problems

occurs only when the mind is prepared to combine knowledge. This purposeful

experience produces the original idea.

Oppezzo and Schwartz (2014) conducted four different experiments using

Guilford's alternative users (GAU) test of divergent creativity and the compound remote

associations (CRA) inventory of convergent thinking. Their quantitative experiment

asked 48 undergraduate psychology students from both a community college and a

private university to participate in series of activities and then taking both tests (GAU and

CRA). The research examined the mind-body connection with determining what fosters

or stimulates creative thinking. Part of the experiment involved students sitting and

resting before taking the tests of divergent and convergent thinking. The students were

then asked to walk on a treadmill for thirty minutes before taking the tests. The next

series of experiments involved walking outside for thirty minutes before taking the tests.

What the analyses of the tests revealed was that students scored higher on the GAU,

testing divergent thinking when walking on a treadmill as opposed to sitting and resting

before the tests. However, a decline in CRA, convergent thinking, was evident as the

GAU increased. The most profound change was when students walked outside before

taking the test. The GAU score revealed higher responses on novel solutions and opened

up a free flow of ideas. Their conclusion was that physical activity is directly related to

creative thinking.

Belluigi (2009) reported on "The Five Colleges of Ohio (2007)" study that

creativity is part of abstract thinking because it involves reflection. "For such thinking to

be empowering, and truly emancipatory, it must be internalized and enacted in some

way" (701). Building this complex relationship is what defines the cognitive-creative

domain.

Divergent thinking focuses on open-ended questions for investigations. It

has become the hallmark of so many quantitative studies examining creativity. Fluency

leads the list of characteristics to define creativity in the quantitative research field. To

further examine fluency, Silva, Martin, and Nusbaum (2009) designed an evaluative tool

to document the level of fluency on a battery of assessment tests. The *Snapshot Scoring*

of Divergent Thinking emerged from the study, which focused on a holistic rating scale

on each assessment question in the battery. Silva et al. examined the results of the

Wallach and Kogan (1965) assessment. Through compiling the results and analyzing the

data they were able to develop a binary scoring rating to aid in the determination of

fluency or uniqueness of idea generation. To further examine fluency and uniqueness,

Silva et al. studied the Torrance Test of Creative Thinking (Torrance, 2008). One finding

suggested that uniqueness was a fairly subjective characteristic in the psychometric

assessment. Another finding indicated that when sample size increased uniqueness

declined.

To extended the knowledge of creativity Silva, et al. (2009) focused on the

creativity assessment called the Consensual Assessment Technique (CAT) that was

developed by Amabile (1982). Amabile identified the limitations of group size when

addressing uniqueness. Amabile's research focused on a full examination of technical

skills and uniqueness. Using the comparisons derived through these various research

studies helped Silva, et al. generate a holistic approach using binary scoring to keep it

simple. Focusing on the validity of this scoring technique called Snapshot Scoring, Silva,

et al. were able to show a good indication that uniqueness stems from fairly high

technical skills and therefore can be associated with creativity.

Snapshot scoring became the quickest way to analyze individuals' level of uniqueness. Silva, et al. (2009) recommended further research to be done to extend this assessment technique by observing individuals over a long period of time. This addressed the reliability of this technique.

Snapshot scoring of creativity did not go far enough for Wu and Wen-Bin (2008). Through analyses of their empirical research, they determined there were three themes that established formal thinking in late adolescent students: awareness, acceptance and integration. To stimulate creative performance among high school teenagers required problem solving that transcended ordinary solutions. Encouraging students to fully examine problems and generate multiple ideas or solutions were of significant importance for the art educator.

A concept formulated by Wu and Wen-Bin (2008) called postformal thinking "give both cognitive and affective support to viewing these processes as central to creativity" (p. 240). Postformal thinking may be how creativity can be conceptualized for high school learners. This concept helped illuminate how teenager learners generate multiple solutions to any given problem. Postformal thinkers synthesize ideas, while tolerating ambiguity. This became a very significance discovery in understanding how creativity emerged in high school learners.

Wu and Wen-Bin (2008) analyzed the findings of the Creative Assessment (DTT) and determined that creative adolescents were more likely to score high on various fluency dimensions such as elaboration and originality. These findings helped support recent predictions about postformal thinking and creativity. Postformal thinking was

defined as a concept whereby individuals are able to generate multiple solutions to a problem. This study helped build a casual relationship between the cognitive-creative domain for art educators. The study placed creative thinking along with the ability to foster fluency when problem-solving. Through students' self-actualization or creative self-efficacy an awareness of their own creative thinking in the studio art classroom has pedagogical significance for the art educator. Postformal thinking involved both building cognitive structures and creative thinking.

The assessment models compared all reflect sensitivity to student's divergent thinking skills. By comparing Torrance (2008) Test of Creative Thinking, Silva, et.al (2009) Snapshot Scoring technique, Amabile (1982) CAT (consensual assessment technique) and Ellis & Lawrence (2009) CLA (creative learning assessment), these quantitative methods for measuring creativity in adolescent learners moves the study of creativity forward toward educational reform. Torrance focused on fluency, flexibility, originality, and elaboration. Silva, et.al, reexamined Torrance's Creative Thinking Assessment and provided a nominal coding system establishing a 'snapshot' view of creativity. Amabile focused on creativity through technical skills. Ellis & Lawrence established six interrelated dimensions for identifying creativity and determined that creativity was a result of teacher evaluation and student reflection. One promising aspect of the CLA model was the appearance of considering student talk as a component to understanding creativity. All of these models, in addition to Eisner's premise of student sharing of ideas and Tillander's investigation into the interface of technology's relationship with creativity, and Cross (2002) case study of three different

design fields illuminated a gap in current research addressing the student voice through an awareness of flow theory.

Creative Self-Efficacy

In the past three decades, researchers have tried to pin down how individuals persist in various creative endeavors. Many studies, both empirical and theoretical, have attempted to narrow the focus on what makes someone or something creative. Focusing on the biological and psychological realms, recent research done by Zhou, Shin & Cannella (2008) and DiLiello, Houghton, and Dawley (2011) focused on the importance of investigating individual's self-perceived creativity. To fully understand what it is to be creative involved listening to and understanding students' perceived experiences. The student voice indicated a connection between the effects of intrinsic motivation on creativity. DiLiello et al. stated that, "intrinsic motivation encompasses exploration, spontaneity, autonomy and interest in one's surroundings" (p. 439). It is important to note that when individuals are engaged in a rewarding activity, they tend to stay motivated until reaching a full creative state. Creative self-efficacy encompasses self-awareness, self-regulation, self-determination, self-image, self- esteem, self-confidence and intrinsic motivation helping to define the internalization of creative behavior.

Internalization allowed individuals to cope with many external variables, such as goal setting, achievement expectations, and social acceptance in a way that synthesizes and differentiates behaviors to produce a relatively controlled and self-

determined response. Integration of these processes defined how individuals became creative.

DiLiello et al. (2011) studied the effects of two different reward systems on creativity and motivation. Forty-two undergraduate students were assigned randomly to one of three distinct groups "performance-contingent reward group, an engagement-contingent reward group and a control group" (p. 439). Although this study focused on reducing the gap between creative potential and individual behaviors within a work place, it still has relevancy with educational methodological approaches.

Focusing on how individuals' internal beliefs are manifested to support creative behaviors allowed DiLiello et al. (2011) to clearly define levels of support needed for creativity to be realized. The study was the first to examine "the importance of active support for creativity in unlocking creative potential and increasing creative practice" (DiLiello et al., 2011, p. 152). Creative behavior becomes individuals' conscious choice. However, this quantitative study identified the need for individuals to perceive support for creativity among their business leaders and co-workers. If a person has a strong internal belief in his/her own creative potential, building on a strong self-efficacy, they will be more likely to engage in creative behavior.

Self-esteem differs from self-efficacy. Self-esteem is a when an individual perceives they are creative based on a small sampling of creative behavior within one specific area of study. Self-efficacy refers to when an individual has a more general perception about creativity across many areas or domains. Furthermore, creative self-efficacy is when individuals' creative potential becomes recognized and encouraged by a

larger audience. This creative self-efficacy tends to lead to higher motivation and enhanced performance.

Zhou & George (2001) developed the concept of perceived organizational support (POS). This concept is defined as, "the extent to which an employee perceives that the organization encourages, respects, rewards, and recognizes employees who exhibit creativity" (p. 686). DiLiello et al. (2011) found that POS came into play during their study when examining creative behavior. Creative behavior and creative self-efficacy emerged when three levels of perceived support came together, "the work-group level, the supervisory level, and the organizational level" (p. 155). Although this study focused on creative self-efficacy within a business organization, this concept can be transferred to secondary education and more specifically art education.

In a mixed-methods research study conducted by Liu, Lin, Jian, and Liou (2012) focused on a college located in northern Taiwan. The researchers followed twenty-eight undergraduate students enrolled in an Instructional Media course. The use of a questionnaire and interviews allowed the researchers to examine motivation and teaching strategies that support creativity. "The period of creative behavior is believed to begin with the arousal of motivation" (Liu et al, 2012, p. 173). When creative performance was recognized within an educational setting it encouraged individuals to stay highly motivated and resulted in more creative performance. The central objective of Liu et al. study was to investigate individual student motivation and learning strategies throughout the creative process.

Liu et al. (2012) used the Motivated Strategies for Learning Questionnaire

(MSLQ) to examine motivation and creative learning with twenty-eight volunteers at the beginning of the semester. The questionnaire comprised of 35 items that are rated on a six-point Likert scale. Intrinsic motivation, task value, self-efficacy and learning strategies were the dominant items on the questionnaire. Lui et al. also conducted a reliability analysis that indicated values for all items were higher than .70 of the Cronbach's Alpha indicating a good reliability for the questionnaire. In addition to the questionnaire, a pre-test, mid-test, and post-test were administered to track changes in the responses to the questionnaire. At the end of the semester, the researchers randomly interviewed twenty of the participating students.

Both quantitative and qualitative data collected in this study revealed that students had improved significantly on various tasks as the semester progressed. Students showed changes in motivation and were willing to engage in more complex creative processes when they received continual evaluation and perceived the value of the task as being meaningful. Lui et al. (2012) determined, "the willingness of students to engage in the creative task and the confirmation of task value were important for maintaining student motivation to engage in the creative process" (p. 178). When instructors provided timely support for their students, motivation stayed at a high level and students' perceptions of creativity were valued.

As educators, opportunities to help students achieve this level of creative awareness, creative self-efficacy, can be promoted by an environment that encourages constructive and positive statements for optimizing student creative performance. This environment is not without constructive criticism, but should always communicate a

positive direction for individual growth that will help students develop the internal motivation, thus the creative self-efficacy, for personal satisfaction and artistic achievement.

The creative-cognitive domain and positive social change is at the heart of secondary art education reform. When individuals are presented with intellectual challenges, the self will experience confusion before equilibrium can be achieved. Reaching this cognitive equilibrium within the mind manifested itself as a flow state. It is this dynamic process within the mind that allowed complex cognitive processes to emerge. Without this level of complexity in life the self would not grow.

When flow is achieved it can be viewed as synonymous to a meditative state. Within the flow state, learning and experience become automatic. Individual's creativity becomes self-actualized thus building the creative self-efficacy. This feeling is often accompanied by what Csikszentmihalyi (1991) defined as a "feeling of union with the environment" (p. 63). When individuals are in the flow state, very little self-scrutiny would occur. In flow targeted goals need to be achieved to advance creativity and for cognitive development. When motivated to stay immersed within a targeted goal, a sense of time is transformed. While in a flow state all consciousness is focused on the task at hand. Individuals are caught up in the rhythm of the activity and the desire to achieve greater levels of knowledge. This process produced a feeling of great awareness of self, creative self-efficacy, and the desire to stay totally involved in the activity. The doing of the activity becomes the reward.

In contrast to Csikszentmihalyi (1991), Livingston (2010) argued,

"creativity is also a technique, a skill that can be developed and refined over time" (p. 59). It is when the students described their experiences with creativity that allowed them to make a connection that providing for self-actualization. Each student brings forth a new perspective on creativity while engaged in reflective discourse. Livingston called this "the seedbed from which true originality grows" (p. 59). Encouraging students to stay motivated and to take time out for reflection is a strategy where educators could maximize the opportunities for creativity.

A higher and more realized consciousness needed to be present in the minds of the high school students to achieve optimal learning. Creativity elicits, "tapping a universal mind or universal consciousness" (Davis, 2004, p. 9). Davis alluded to a sense that to understand and promote creativity, individuals needed to know the larger concepts associated with the study of art. By knowing how artists work with art elements and principles of design to achieve a composition with intent, allowed students to understand visual messages on a deeper level. Sheridan-Rabideau (2010) argued, "creative thought is necessary for those people who choose to participate in a life that seeks meaning" (p. 56). It is this synthesis in understanding art that allowed students to realize their own creative potential.

Much like Csikszentmihalyi (1990), Gardner (1993, 2011) believed creativity emerged through a synthesis between the person, the domain, and the field (society). Gardner wrote in *Creating Minds* the need to combine Csikszentmihalyi (1988) system's theory of 'true' creativity with individualized human traits. Gardner was convinced that, "developmentalists had to pay much more attention to the skills and

capacities of painters, writers, musicians, dancers, and other artists" (p. 28) to broaden the concepts of cognition and creativity.

Creativity emerged from a psychological realm of human consciousness thus enabling students to become self-actualized. However to be fully actualized, the students must persuade others of the quality- the creativeness of the final product. Persuasion is the ability to convince the society that your artistic product is legitimate and truly creative. According to Davis (1999), "the product must be accepted; it must be viewed as having value to the endeavors of sophisticated others within the domain" (p. 67). Product and persuasion become necessary attributes in defining whether something is creative. However, it is the process that is the most important aspect of creativity for the art educator. Recent concerns in curriculum standards and testing have changed the studio climate that deflects attention from the importance of creativity, reflection, and self-actualization.

Within a comprehensive art education program, adolescent students can learn how to socially belong and to embrace each other's perspectives when actualizing their own creative experiences. The visual arts becomes a crucial link in secondary education programming for developing the adolescent mind and providing for a level of self-actualization.

According to Csikszentmihalyi (1991) and Brinkman (2010) creativity penetrates the psychic depths of the mind; "its practices are shaped" by educators that separate knowledge from creativity (p. 310). Separating creativity from knowledge acquisition is not a philosophical stance many art educators would embrace as it relates to

adolescent artistic and cognitive growth. Knowledge-rich creativity, the creative-cognitive domain, is something art educators are striving to achieve through revised studio methods and practices. The conflict in teaching and learning within the high school art program avoided the paradigm of creativity as 'subjective' experience. Creative thinking leads to the cognitive development of the mind.

Brinkman (2010) summarized creativity into two teachable components: "the first involves using voluntary acts to acquire a large body of knowledge and skills for 'enabling' creativity; the second comprises traits for 'promoting' creativity, many of which are involuntary" (p. 312). Brinkman has alluded to the influences or state of flow. Brinkman described how learning and creativity should not be focused solely on assessment because "creativity does not flow from an impulse located outside any normative forms of knowledge, understanding and skill" (p. 310). Creativity might emerge as a result of the flow state. It is within this optimal consciousness where knowledge is formed to give way for creative responses. Providing students with the ability to recognize when they experience flow could enable them to become aware of their own creative thought and potential, thereby constructing the creative-cognitive domain.

Freedman (2010) also agreed with Livingston (2010) concluding that creativity can be taught. In an essay on rethinking creativity, Freedman stated "creativity is auto-didactic" (p. 12). Creativity is a study of the self and of self-motivation. When students stay totally immersed in a process they build their own learning. Having a sense of creative self-efficacy promoted students' motivational level. If individuals perceived

and valued their own creativity, they will want to continue pursuing highly complex and or demanding challenges. Part of the role of an educator is to promote self- motivation through methods that support and value creativity.

Pedagogy

Creativity is often associated with the arts, specifically the visual arts. Costantino, Kellam, Cramond, & Crowder (2010) examined how the teaching methods involving innovation and its application in the arts were manifested in college engineering courses. A pilot study was conducted to determine how the visual arts could become a site for creative and innovative thinking. Advanced in this research study was how teachers foster creativity within the art education curriculum. Undergraduate engineering students participated in this pilot study to determine a connection between the visual arts instruction and creative problem solving.

Costantino, et al. (2010) addressed the advancement of creativity by implementing a series of studio art courses within the engineering program. *The Synthesis and Design Studio Series* was an educational approach to engineering to help students develop a stronger sense of creativity and innovation. The Studio Series became a four-year study to gain a deeper understanding of "larger systems in which both art and engineering are situated" (p. 50). Part of the rationale to examine this proposed connection between the visual arts and creativity addressed many practical reasons directly associated with industry and economics. Hope (2010) argued, "there is a strong connection between the type of thinking necessary for creative work in the arts and the

type of thinking necessary for creative work in other fields" (p. 39). To meet the growing

needs of industries in the 21st century requires a mind ready to think creatively. Educating

for creativity is the key.

Rutland (2009) proposed that designing curriculum for creativity was

directly tied to emerging technologies. Both art and technology provided pathways for

seeing possibilities, problems and innovative solutions. Art and technology explored and

experimented with various ideas, manipulated materials in the hopes to innovate. Within

the visual arts curriculum there are opportunities for students to take risks and to play

with ideas, and to generate "different approaches, responding to purposeful task in

imaginative and personal ways to produce original images and artifacts" (Rutland, p. 58).

According to Rutland, creative teaching is defined in two ways, " firstly ' teaching

creatively' and secondly 'teaching for creativity" (p. 59). Hope (2010) argued "creativity

is not an automatic good. A great deal of effort is required to channel it productively"

(p.41). Developing an art curriculum that matches students' skill level also involved

engagement on a creative level through self-actualization.

Lee (2009) suggested that if art teachers prepare lessons the same way a

recipe is understood, then creativity is not emphasized or even actualized. This recipe

driven curriculum, designed for standardized testing, does not provide students with "a

connection to content, knowledge and skill development, or product development" (p.

42). Creativity becomes something that is "philosophical, psychological, or therapeutic, a

way to avoid real accomplishment" (p.42). These implicit dangers or ideologies do not

benefit the students. Students should be provided with opportunities to think

independently allowing for a level of freedom that can be experienced in the flow state.

In reality art education practices become entertaining only because they allow for

creativity and self-expression. Lee continued to argue that creativity "cannot be reliably

assessed by mere scrutiny of a finished artwork" (p. 42). Students at various ages and

levels of ability will experience creative applications through a creative-cognitive

domain, such as learning the nature and potential of materials, application of elements

and principles, as well as gaining proficiency in selected techniques. Art educators

develop conditions or situations that nurture this level of experience to develop creativity.

In a case study conducted by Hope (2010), student interviews revealed

four distinctive criterions that needed to be satisfied before creativity could be

experienced. They were: a) The activity needs to be supported by a significant stimulus –

usually visual; b) Focused teaching was necessary for knowledge and skill acquisition; c)

The activity had to be presented within a student's relevant context; and d) Continuous

reflection was needed to encourage creativity (p. 60). Hope further explained that the act

of creativity for these students required all four criterions to come together before they

could handle the uncertainty that accompanies creativity. The research also suggested

that a clear link between teacher interactions during the reflection stage was key to

promoting and stimulating creative thought processes. This level of engagement during

the reflection period was described as a combination of interpersonal skills coupled with

intrinsic motivation. This type of teaching strategies and methods helped define the

creative-cognitive domain. These are practices that can provide for student self-

actualization of creativity.

Phenomenology and the Visual Arts

The studio classroom and the teaching practices that facilitate a depth of

knowledge in the visual arts are guided by robust research associated with

phenomenology. Unlike the traditional research that has been conducted in the visual arts,

phenomenology will move past the notion that "phenomena have independent properties

that are measurable, testable, predictable, and understandable" (Marshall, 2010, p. 77).

Qualitative methods are more concerned with interpretations and understanding the

actions, beliefs, values, and social context of teenage learners. A studio-based classroom

includes the production of artistic products and the critical observations that helped

advance a depth of knowledge in the visual arts. This critical process is referred to as

exegesis. Marshall explained how visual arts research is contextualized and that the

process involved production of a "cohesive body of work and a written component" that

can be framed around research practices highlighting reflection as the source of creative

information. Reflective practices can be classified as thoughtful, analytical, meaningful

and critical insights that advance visual art practices.

Exegesis is one reflective approach to visual arts research. The process

involved establishing questions or problems to direct inquiry. Through the practice of

creating art, exegesis became the next stage in development, which involved critical

observations, descriptions, analyses, and written reflections. This exegesis process helped

students move toward creative production. It is a back and forth process, the moving in

and out, that leads to creative results. According to Marshall (2010), "creative production

and critical reflection are not separate in art; they are dualistic and mutually dependent"
(p. 79). Studio discourse used to describe, analyze or interpret artworks engaged learners
at a higher level of creative thinking. The exegesis process becomes the source for
phenomenological investigations in the visual arts.

Marshall (2010) suggested that phenomenological methods are perfect for
the studio-based research setting. Marshall stated, "the arts and phenomenology share a
deep relationship rooted in possibility exploration" (p. 83). In phenomenological research
the researcher frees themselves of any presuppositions about the phenomena under study
in order to fully view the essential features of exegesis. This is referred to as 'bracket out'
and is what Husserl (1931, 2002) described as epoché. Husserl alluded to the idea that the
epoché, for the phenomenologist, required "our mental glance towards this or that pure
experience with a view to studying it" (p. 127). Another way to conceptualize epoché is
to think about grasping what is consciously perceived, "to bring these to complete
clearness, and within this zone of clearness to subject them to analysis and the
apprehension of their essence" (Husserl, p. 128). This helped shorten the distance
between phenomenon and essence to reduce the emptiness and vagueness and produced
"complete clearness" so that "our intuitions of the essence may be given a corresponding
value" meaning that the intended essence(s) of the phenomenon make connections within
the visual arts content and context (Husserl, p. 131).

Phenomenological practices in the visual arts can become the pathway for
professional reflective practices that become transformational methods fostering
creativity. Tam (2010) described in three cases studies of teachers how reflective

practices in the visual arts can lead to highly effective curricular programming. Positive social change initiated in the visual arts focused more on developing knowledge by detecting how the visual arts are connected to cognitive functions. Tan described the visual arts as shifting away from "studio-based learning to a more balanced emphasis on responding to as well as making art" (p. 182). In emphasizing the lived meaning by including more verbal and written responses to art making established the need to understand and study students' artworks through a phenomenological lens. Tan stated "phenomenology offers insightful descriptions of experience" (p. 184). The phenomenological interview with students provided a connection between the teacher, student and art process. The students' role should be one of elaboration not evaluation. Tam's case study focused on revealing phenomenological methods for the teachers in the case study. Tam focused on aesthetic theories with the participants and provided them with various discourse strategies to enable students to fully discuss their art making experiences.

Bernard (2010) stated, "visual experience is conjured in order to emphasize its linguistic and cultural economy" (p. 968). Looking at and discussing art are linguistically constructed and have a cultural and historical meaning. According to Bernard, visual experiences and phenomenological methods allow students to engage in "a process of self-recapturing even as it intends to recapture the truth" of the phenomenon (p. 969). Focusing on the central cultural and historical perspectives embedded within the students verbal explanations or elaborations on creating art became a "source for indestructible longing" (p. 972). When students were able to fully examine their own

intentions through both the creating process and the discussion defined the exegesis process. To get at this meaning, phenomenological methods potentially bring forth students' understanding of creativity.

Summary

This review of literature supports a new vision for art education, the creative-cognitive domain. The literature review suggested a connection between students' creativity and a flow state. Situated within the heart of the domain is an understanding of aesthetics. The conceptual construct being suggested here, Csikszentmihalyi (1990) flow theory might define how creativity emerges in the mind of teenagers. This scholarly review of the literature helped illuminate a gap in art education practices, the use of flow theory to help students articulate and actualize their full creative potential. The need for adolescents' perceptions, their voice, is not fully studied in art education. By revealing how the students perceive their creativity might help illuminate the concept of creativity. How students understand and know creativity will situate art methods within the creative-cognitive domain.

The studies in this review of literature helped define the concept and complexities of creativity within the realm of art educational practices. A full comparative analysis of the creative process and the psychometric approach to creativity illuminated attributes associated with creativity, which supported flow theory. The use of flow theory as a process can be conceptualized within the creative-cognitive domain. This phenomenological case study was designed to investigate student voices as they

relate to creativity. The student voices will direct this investigation by weaving together self- described memories and moments of creativity.

Research reviews suggested that creativity was characterized through emergent traits, such as self-actualization, attraction to complexity, prolonged attention, aesthetic orientation, and interpretation. Task motivation and thinking styles (personalities) were also identified as key attributes of highly creative adolescents. Csikszentmihalyi (1990, 1991), Gardner (1993, 2011) and Eisner (1998) concluded that creativity was a result of the interaction between the field (experts), the person's individualized strengths, and through extensive training within a domain (knowledge and skill).

The current literature review helped define creativity as abstract thinking that involved reflection and the ability to generate ideas as they related to divergent thinking. Disagreement between the art product and the process continued to be debated, thus fueling the notion that creativity being product oriented. This perspective is divorced from adolescent students' lived experience. This study examined the relationship between student voices and the possible emergence of flow theory to structure an emerging pathway for the creative-cognitive domain.

In the next chapter, phenomenological methods used in this study will describe the lived experience of creativity from high school students. Sokolowski (2000) suggested, "when we are trying to think about human consciousness, we start with the premise that we are entirely 'inside', and we are greatly perplexed as to how we could ever get outside" (p. 10). Phenomenology will guide this study to open a new pathway for

the philosophical exploration of creativity. By exploring the conscious relationship high school art students have with the creative experience will establish a level of self-actualization described in this study as creative self-efficacy and the ability to engage the cognitive demands needed to enter a creative state of mind, a flow state.

During the implementation of this study three semistructured interviews, where the second interview following the Think Aloud technique, with participating students and a field journal have been used as the data sources. The semistructured interviews with participating students have helped illuminate and define creativity from the student perspective. The semistructured interviews were documented through a computer software recording program. Through transcription, codes and themes formed the students' experiences. Several points of interest with this study where how students describe individualized experiences with creativity and whether a flow state became part of the creative experience. Through data analyses comparisons have been made based on the themes that emerged through analysis of the student's perceptions. Contextualizing was a process that provided a level of interconnection between themes to reveal the importance and significance of the phenomenon.

Solid descriptive responses became the basis for this phenomenological research. With thick descriptions come a level of transferability for the future art educators. This method of data analysis improved the odds of transference and suggested transformational art education practices at the high school level. Moustakas (1994) suggested that phenomenological research builds a educational framework that "permit(s) what is before one (the student) to enter consciousness and to be captures the results of

the phenomenon, established traits of the construct, will be the understood in its meanings and essences in the light of intuition and self-reflection" (p. 28). Blending the personal perceptions of the students through the three semistructured interviews and the field journal allowed for full triangulation of data. Along with the development of questions for the semistructured interviews, procedures included ethical considerations based on IRB guidelines.

Chapter 3: Research Method

This research study was designed to capture student perceptions of their

own creativity using a phenomenological approach. The purpose of this study was to

describe teenage art students' perceptions of their own creative experience, with a focus

on students' descriptions of creativity. Phenomenology is used to propose valid

descriptions of a phenomenon under study, which was a suitable method because the

research findings were intended to provide rich information about students' creative

experiences. This study contributed and expanded upon what others have already

determined about the creative process and flow theory, but provided a personalized

experience to the complexity of the concept of creativity. This chapter includes the

following ten sections: (a) an introduction; (b) research design and rationale; (c) the

specific approach used to address the research questions; (d) role of the researcher; (e)

setting of the study; (f) data collection and organization; (g) instrumentation (h) data

analysis; (i) issues of trustworthiness; and (j) ethical procedures.

This research study attempted to capture the student experience (voice) in

an effort to reveal the phenomenon of creativity from the perspective of the flow state.

The primary research questions that guided the study were:

1) How do high school students perceive and describe their creative

experience in an advanced placement art studio?

2) How do high school students perceive and describe the connection

between the phenomenon of creativity and a flow state?

Phenomenology was the most logical choice for answering these questions because it facilitated a full focusing on the students' experiences.

The qualitative research paradigm provided a rationale for participant recruitment, school site selection, and structural organization of data collection (three semistructured interviews, which includes a Think Aloud technique, and a field journal). These key aspects of the research study logically supported the type of data analysis proposed, which included specific strategies that addressed credibility, transferability, dependability, and confirmability. A thorough examination of ethical procedures represented how the study aligned with university and school district policies. The research proposal for this study was provided by Walden University's Institutional Review Board (approval #: 03-25-0080043).

Research Design and Rationale

It is important to briefly review the possible research approaches pertinent to this study and to situate my chosen design, phenomenological. Three traditional paradigms have emerged as potential research strategies to address teenage creativity. These are quantitative, qualitative, and mixed methods. Quantitative and qualitative can appear to be exact opposites, however they represent two different ends of a continuum (Creswell, 2009, p. 3). Quantitative research focuses on testing hypotheses to examine predictions whereas qualitative research focuses on interpreting social interactions. The mixed methods paradigm draws on both of the other two traditions, mixing qualitative and quantitative approaches as needed. To identify whether a study is in line with either

quantitative or qualitative paradigms required a closer look at the type of questions that arise as a result of the literature review. When designing quantitative studies the researcher is generally addressing closed-ended questioning also known as quantitative hypotheses. Qualitative studies generally involve more open-ended questioning, specifically designed for the interview process.

The qualitative approach is best suited for research that collects data from participants in a setting where data analysis is based on inductive techniques. These inductive techniques generally build themes, which aids in the interpretation and thus meaning of the phenomenon under study. This approach focuses on the importance of illuminating the complexity of the phenomenon.

The quantitative approach is used to test specific theories proposed by the researcher. Typically an instrument is used to collect data to help provide a statistical documentation of the phenomenon. In contrast to the qualitative paradigm, quantitative studies test theories through a deductive technique. This focuses on the importance of generalizing and replicating the findings.

A mixed methods approach embraces both aspects of qualitative and quantitative paradigms. It involves the use of both approaches "in tandem so that the overall strength of the study is greater than either" research method taken alone (Creswell, 2009, p. 4). The mixed method approach was originally selected for this research design as a way to collect survey data along with student interviews. One major drawback was the existing survey instruments used to examine creativity did not focus on

individual student experiences. A qualitative method was best suited for revealing individual students' perceptions of creativity.

According to Creswell (2007), there are five principal qualitative approaches to inquiry. They consist of narrative, phenomenological, grounded theory, ethnographic, and case study research designs. To understand and select the correct approach to qualitative inquiry an overview will be provided in this section.

Phenomenological methods are used to uncover consciousness about an experience in a person's own words. Moustakas (1994) observed that, "the empirical phenomenological approach involves a return to experience to obtain comprehensive descriptions" (p.13). A return to the experience allowed individuals to recall and reflect on what occurred during an experience. A rich description of the students' creative experiences create the reflective structure for the research design, data collection, and analyses in an effort to portray "the essences of the experience" (Moustakas, p.13). A further discussion in the next section on research design and rationale will uncover how this phenomenological study will become the best choice in describing the students' experiences in-depth.

Phenomenology also consists of noema and noesis. The noema refers to the intentionality of the experience and the noesis is the cognition required to intellectualize the intention of the individual. More specifically it helped identify the uniqueness of the creation. The noema is identified through breaking down components that make up the experience. It required a level of personal analysis or self-reflection. For Husserl (2002) the noema is constructed through perception and judgment. If the

phenomenon is perceived to be pleasurable it is in essence reduced to pleasure. The

noema is the perceived pleasure. In its very nature, the phenomenon is rooted in a

meaning. According to Husserl, "it may be many meanings, and on the ground of this gift

of meaning, and in harmony therewith, to develop further phases which through it

becomes for themselves meaningful" (p. 184). The phenomenological experience has a

gift and this gift is intentionality. It has intended meaning that brought forth for analysis.

The perceived and intentional realities must come together to form the meaning of the

object.

Thoughts are a manifestation of consciousness. Objects and experiences

orient themselves in the mind in an intentional way. The relationship between the noema

and noesis constructs the meaning within the experience. The textural and structural

dimensions of the phenomenological experience were identified through the relationship

between the noema, which is the phenomenon not the 'real' object and the noesis, which

is the underlying meaning of the phenomenon.

Because this study seeks to explore the phenomenon of creativity through

the student voice, the qualitative paradigm was selected as the most logical approach.

Reviewing the five qualitative approaches to inquiry helped delineate the appropriate

paradigm for addressing adolescent creativity. The qualitative research designs will be

more fully explored below. These research designs contribute positively to the

investigation of creativity. However, a full examination of each approach will reveal the

most effective way to study the creative experience for teenage students.

Narrative research can take on many forms. This type of research design

addresses different social issues and is basically structured to address a story, often called "narrative analysis" (Creswell, 2007, p. 54). With this process the researcher is collecting narratives of the phenomenon from participants through interviews, journals, and observations to construct an analysis that resembles a story. Narrative research is a way to develop interpretations based within a contextual approach. This allows a researcher to write a story based on participant's experiences within a particular situation, such as teachers' perceptions of the most effective way to teach an advanced placement course. The narrative design was an option for this study because it could tell the story of the teenagers' experiences with creativity. This approach would enable the collection of forms of narratives from interviews, journals, and observations. One key aspect of narrative research rests on the ability to deconstruct the participants' stories and expose dichotomies (Creswell, p. 56). Because this research focused mainly on the student voice and did not collect related documents, such as student journals and other artifacts, this method was not selected.

The grounded theory approach is used to develop a theory based on the data collected. Teenagers in a studio art classroom do presumably experience similar processes and as a result of their reactions and within the process of making art will have similar experiences, which can be used to develop a theory for how the phenomenon of creativity is revealed. This strategy would help explain a phenomenon seen in a group of individuals and could potentially contribute to reforming art education practices.

Grounded research is a method to use when a theory is proposed based on

the research results, therefore it was not the appropriate method for this study. Although it would allow for many individual experiences to be addressed, much like collecting high school students' perceptions about their own creativity, developing a theory is not the focus of this study. This study however, is based on flow theory as a theoretical underpinning for the construct of creativity. The study is not establishing a new theory, it is using a theory to investigate the phenomenon.

Another approach that also addresses and records many voices is the ethnographic method. An ethnographic research design tends to focus on the shared patterns of behavior or beliefs within a common group. This method would build a "culture-sharing group" (Creswell, 2007, p. 68). As a research design, ethnography requires extended observations where the researcher is immersed within the research environment, such as a classroom environment. Ethnography has its roots in anthropology resulting in pluralistic approaches such as, critical theory, postmodernism, feminism, and cultural studies. Although this study will be examining students' experiences with creativity, an ethnographic approach would not the most effective selection because this study's aim is not to discover shared cultural beliefs or to become a part of the collective social scene. Because this study is not examining participants as a grouping it was not the best match for the research. It is the individual voices of the students that will provide the best source of information to examine the phenomenon of creativity. Ethnography is not the best approach when revealing individual student experiences with the phenomenon.

A case study approach would have been an effective and logical choice for

this study. This approach would focus on a small group of students and examine multiple sources of information such as interviews, visual material, documents, and observations (Creswell, 2007, p. 73). This approach would allow for purposeful selection of individual students and to collect multiple sources of data to help reveal the phenomenon. However, this research asked for volunteers from the Advanced Placement Studio class, and did not personally select individuals that would be perfect matches for the investigation, therefore this was not the most effective choice for the research design.

In the current research few studies have addressed creativity through the lens of phenomenology. Many of the studies examined or developed creativity instruments to quantitatively generate data to analyze the phenomenon (Amabile 1996, Burton 2009, Cunliffe 2008, Ellis and Lawrence 2009, Hope 2010, Lindstrom 2006, Silva, Martin and Nusbaum 2009). Some mixed-methods studies, like Tanner-Anderson (2010) examined how high school students experience creativity through the use of a multimodal project including students' explorations with literature, music, and the visual arts. Tanner-Anderson was able to help students cross over into different disciplinary areas to help illuminate the interconnectivity of academic subjects and the creative experience. Although the study produced significant results in the interdisciplinary concept of creativity, more specifically how to get students motivated to write, it did not actually examine students' perceptions of creativity.

Sternberg, Grigorenko, & Singer (2004) worked with high school students to explore the phenomenon of creativity, but neglected to ask students directly about their own personal experiences with the phenomenon. During their findings and

discussion they suggested the next step to identify original behavior, creativity, would to examine how teenage students describe the phenomenon.

In another related study, Forrester & Hui (2007) studied creativity with young students at a Hong Kong primary school. By examining the students' artworks as part of their mixed-methods study, Forrester & Hui determined that for young children being creative is an everyday experience within the visual arts. They concluded by advocating for more inclusive instruction and for restructuring the compartmentalizing of subject disciplines within the educational institution. This study revealed that by examining students' artworks more information about the student creative experience can become revealed. This study did not discuss the creative experience with students, thereby missing one key aspect to how creativity can be actualized by the researchers or participants.

Byrge & Hansen's (2009) empirical study focused on how students produce creative products within the classroom setting. They proposed a new way to conceptualize the learning environment to facilitate creative thinking. This new method was called "horizontal thinking" (p. 239). Much like the previous studies, horizontal thinking is the ability to cross over into other academic disciplines for constructing knowledge and to support creative thinking. Examining the creative product is just one aspect of defining and describing the creative experience for students. Discussing the experience with students would help elicit and complement this new method of thinking.

A case study by Rodriguez-Sanchez, et al. (2011) focused on how the act

of piano playing provided a pathway to creativity by inducing a flow state. The design of this study collected self-reports of the flow experience from professional classical pianists. The results indicated a correlation between emotion and engagement, later defined as psychophysiological in the study. Participants' measures on cardiovascular and respiratory functioning and electromyography (EMG) readings were used to support when a flow state was experienced during the act of playing the piano. One limitation in the study was that creativity was not addressed in reports offered by the subjects. The psychological realm was emphasized to help support what it means to experience a flow state. Discussions about optimal experiences were described, but the research study did not fully address participants' perceptions of creativity.

Brinkman's (2010) empirical research in creativity did not address the participants' perceptions. However Brinkman did address how to teach for creativity. Through his analyses of the research findings he alluded to the importance of flow theory and further phenomenological studies needed to fully understand how students experience creativity.

These and other studies suggested that phenomenology has been found to be an effective research approach to understand teenage students' perceptions of creativity and to reveal whether or not they entered a flow state. This study examined whether students actually experience characteristics of Csikszentmihalyi's Flow theory. If students do experience a flow state, this theory can be used to help transform art education practices for positive social change for the 21st -century art studio classroom.

Role of the Researcher

As a researcher, it is critical to address, identify, and minimize potential bias to reduce or eliminate any possible threat to validity. However, in a phenomenological study it is almost impossible to avoid a measure of bias and subjectivity. I have been teaching art for twenty-five years and have taught advanced placement studio art and the visual arts through the International Baccalaureate Organization for the past 15 years. This practical studio art experience has provided me with a wealth of knowledge in how teenagers create art and how they respond to their own intellectual development. As part of the International Baccalaureate Organization, I have been acting as an examiner for the past nine years. Part of the required assessment process involves interviews with student candidates. I have learned, when in the field evaluating student performance, that the best type of interview remains open-ended to elicit the most authentic account of the student's experience in the visual arts. Using a high level of discussion (discourse) within the studio allows students to become part of the assessment process and becomes a significant strategy for reflection and thus cognitive growth. My experience in the studio art classroom and my IBO examination work have provided me with some expertise in the area of creativity and reflective practices. The skills gained from my professional life has allowed me to enter into this study with a strong pedagogical background that will strengthen the research methods, interview structure, and ability to illumine the student voice to further understand how students perceive their own creativity and whether or not a flow experience emerged.

The relationship I have developed with the high school students has

always been a crucial aspect of producing rich thick descriptions of the phenomenon under study. Entering another art teacher's classroom, as a professional colleague, I have no supervisory authority and do not know the students selected. I will not be grading the students' artwork. Placing myself in the studio environment with students working on their projects has become a key attribute to phenomenological studies. In this research study, my role will be as an interviewer. In the second interview, called a Think Aloud, I will interview the students in the studio classroom environment while the students are discussing, exploring, and creating art. However, what they will be creating will be up to the teacher's direction. My role will be solely as an interested person responsible for conducting interviews and organizing data for analysis.

Hammersley (2000) recommended that investigating a phenomenon, within the phenomenological approach, required the researcher to understand the phenomenon as much as possible. It is also understood that phenomenology can never be fully understood. It is important to examine one's own preconceptions and beliefs about the phenomenon before entering into the data collection process. It is essential to separate personal bias on how the students have described their experience with creativity, noting whether or not they use words that define a flow state. Entering into the investigation as an art educator and as an artist who has experienced a flow state many times while creating art provided a level of understanding that will help with the organization of the data within a framework that will reveal the themes for deeper analysis leading to an understanding of the phenomenon (Moustakas, 1994, p. 97). Being aware of possible bias established a way to bracket my own experience. The bracketing has been done through

field notes, asking a colleague to review my notes, and from experience within the studio classroom environment. This process recorded and revealed the voices of the students to allow for richer descriptive narratives.

In the field journal, to help organize the entries before each interview, Maxwell's (2005) "researcher identity memo" was initiated (p. 39). This technique allowed for reflection on my own goals and assumptions about creativity and the flow state in an effort to sort out beliefs about what the students might experience. This core process in phenomenology is called Epoche, meaning to refrain from judgment. Moustakas (1994) refers to Epoche as "a new way of looking at things, a way that requires that we learn *to see* what stands before our eyes" (p. 33). Entering into the interviews with this view in mind helped distinguish participants' unique descriptions of the phenomenon. The information entered into the Field Journal were reflections of the participants' descriptions without personal thoughts and understanding of the phenomenon.

Examining and constructing this research study around phenomenology allowed the experience to be unique and provided a level of understanding of the student's intentionality. Moustakas (1994) stated it is not necessary for the researcher to distance him or herself from the phenomenon under study. It will result in a superficial understanding, whereas, another deeper kind of knowledge comes from "intuitively becoming one with the subject" (Moustakas, p. 46). Patton (2002) asserted that in phenomenology, "the assumption that there is an essence or essences to shared experience" differentiates this approach in qualitative research (p. 106). Within this

philosophical construct lies the understanding that meaning is derived through a cultural situation.

According to Sokolowski (2000), "there are no structural differences within consciousness; there is just awareness, pure and simple, but for phenomenology, intentionality is highly differentiated" (p. 12). It is understood that students' experiences will be unique. The shared dialogue from the participants has provided an understanding associated with an implied connectedness or intentionality, which aided in interpreting and synthesizing the descriptions.

Understanding the student voice is the key aspect of this study. This provided for complexities in participants' views on creativity rather than narrowing the meaning of their experiences into few categories or ideas (Creswell, 2007, p. 20). Given this worldview, the interview questions needed to be open-ended to allow for individual responses to emerge about the phenomenon of creativity. Open-ended questions provided for a logical sequence of questions when fully describing the phenomenon.

Setting

The high school selected to participate in this research study is from a large county school system in southwest Florida. The county is divided into four cities. There are 12 secondary schools located in the county. The selected high school is in the southern region of the county. This high school was selected because it was one of four high schools in the county that offer advanced placement art programming and was the furthest away from the high school where I teach. This advanced program provided a

venue for investigating students' reported experiences of the creative process in the visual

arts.

Through a review of the Florida Department of Education's website, I was

able to establish that the high school is composed of 2,331 students. The ethnic grouping,

according to the 2011-12 Public School Accountability Report, showed 69.9% White,

10.6% Black or African American, 13.8% Hispanic/Latino, 1.2% Asian and 3.8% two or

more races. Students considered ELL (English Language Learners) comprised 4.4% of

the school population. Students receiving free or reduced meals equaled 62.9%. Students

with physical disabilities comprised of 12.2% of the entire school population. The high

school has 1,144 females and 1,187 males currently enrolled.

The high school offered an assortment of advanced academic course

offerings and diverse extracurricular programming. Within the academic program,

students are given an opportunity to become part of the Collegiate Academy, which

offered students accelerated college preparation, specifically advanced placement and

duel enrollment course offerings. Two large academies are established within the high

school setting. These academies focus on engineering and medical studies. In addition to

high academic programming, this high school provided a state of the art performing arts

center, which supported a diverse theater studies program in addition to musical

instruction and performances. The school has a state of the art media collection, drafting

labs, construction shop, wrestling room and a 5,000-seat football stadium. The visual arts

program offered students a selection of courses in photography, drawing and painting,

ceramics and sculpture, and a culinary arts industrial kitchen. In addition to this diverse

educational programming, this secondary school houses a teen pregnancy program servicing both mother and child through high school graduation.

The county public school system, of which the high school is a part, employs approximately 3,100 professionals teaching 40,000 enrolled students across twenty-two elementary schools, 12 secondary schools, an exceptional student center, a school for the gifted, and a vocational- technical- adult education site. Class size average is approximately 25 students for each classroom teacher. Four high schools, including the one where I work, offer advanced placement studio art courses. The school principal and advanced placement studio art teacher have agreed to be part of this research study.

Participants

Addressing the phenomenological method, participants have been purposively selected. Students enrolled in a high school advanced placement studio art course (college level instruction) were asked to participate in this research study. This class was selected because the students have had two to three years of high school art instruction and demonstrated a more complex understanding of the visual arts and the phenomenon under study.

The first 12 students who submitted their assent and parental consent forms were selected to participate in this study. Twelve was a good starting point for a phenomenological study. It allowed for several voices to be heard so that common categories and themes presumably would emerge through the analysis of the data. However, if the data seemed too superficial, more students would be invited to

participate. According to Creswell (2007), in phenomenological studies, "it is essential that all participants have experience of the phenomenon being studied" (p. 128). Therefore, the twelve students selected represent a group that has potentially experienced some level of creative art production within their high school experience. It is hoped that the participating students would fully be involved throughout the study. However, if one or two students drop out of the study, the remaining ten participants would provide an adequate number to conduct a phenomenological study. This strategy represented a richer description of the lived experience because students were able to fully communicate their own experience with creativity in the visual arts.

Each student was provided with a pseudonym name for this study to help protect his or her identity. This is where the study pseudonyms, their ages and other pertinent information will be provided to help describe each student. Because I do not personally know these students, it was imperative to record as many details as possible to provide a clear description of students' experience with creativity. The field journal provided a larger picture of the interview process to help during the transcription process. This was another way to help clarify unclear audio recordings.

Instrumentation

Phenomenological research is a form of research that identifies individuals that have common or shared experiences with a particular phenomenon. Much of the current literature in teenager creativity focuses on instructional methods, environmental settings to facilitate creative behaviors, and quantitative data collection to examine

characteristics of creativity. This research study provided a more individualized account of the phenomenon through direct perceptions and descriptions provided by teenage students in the visual arts, specifically the advanced placement studio art program. This study collected data from three semistructured interviews, the second interview was a Think Aloud technique, and a field journal. Each source yielded different information with some overlapping descriptions about students' perceived creativity. Appendix A identified the questions for the first semistructured interview with students. The Think Aloud interviews, explained in more detail below, were more reflective as the students actively created art while sharing their insights. The questions, see Appendix B, were open-ended to elicit individualized responses. The questions for the third interview are located in Appendix C. These questions are designed to elicit very individualized, reflective responses based on what the students have learned about their own creativity. The field journal helped order to the data collection and recorded and helped bracket subjective thoughts that emerged. It provided another form of documentation that recorded what was seen and heard through the interview process. These sources of data came together to establish some common categories and themes to reveal the students' voices, their perceptions of creativity.

The questions for Interview 1 are designed to help students feel at ease with the process of creating art. They reflected a synthesis of the literature review, specifically the work done by Amabile (1996), Belluigi (2009), Brinkman (2010), Csikszentmihalyi (1990, 1997), Davis (2004), However, Question 2 is also designed to hopefully elicit the possibility of a flow experience. Question 3 through 11 were designed

to reveal some type of flow experience while creating art. Question 5 was directly related

to reveal some type of flow state while creating art. Questions did emerge through the

interviews that helped elaborate on the student's responses. Moustakas (1994) suggested

that phenomenology allows participants to share a deeper understanding of the

phenomenon and it is the ability to "enter consciousness and to be understood in its

meanings and essences in the light of intuition and self-reflection" (p. 27). It was hoped

that the students would be able to describe from their own experience, what it means to

be creative. Self-reflection is the key to reveal a flow state while creating. Students might

not know the term flow experience, but they might know the conscious state on an

intuitive level. Self-reflection would be initiated through the semistructured interview

process. This point of view enabled the students' voices to be heard and for participants

to make sense of their experiences with creativity. As a result of reflection and analysis

within the interview process, a deeper meaning to the phenomenon emerged. Asserted by

Moustakas, this directness of the participants' responses revealed the "intrinsic feature of

intentionality" (p. 27).

It was hoped that the students would be able to describe from their own

experience with creativity, specifically during the second semistructured interview called

the Think Aloud. The Think Aloud was conducted while the participants were actively

working on a piece of art in a conference-like room within the classroom environment.

This interview revolved around the cognitive process of the student making the art, and

talking about the process. The questions for the second interview (see Appendix B) have

been based on the reflective research of Schön (1982). According to Schön, the research

questions asked during the reflective process, while creating, must be based on the discipline under study. Focused questions helped the participants to engage with the situation at hand. Here reflection and analysis within the interview process established a deeper meaning to the phenomenon.

In the third interview (see Appendix C), according to Schön (1982) a reflective conversation was treated as unique and revealed some sense of intentionality for further inquiry (p.163). In phenomenological research, questions are not necessarily pre-determined. These open-ended questions helped guide the conversation and provided participants with a level of self reflection and self awareness. Based on the research of Giorgi (2009) phenomenological research is focused on a full description of the phenomenon under study (p. 122). To provide an in-depth understanding of the participants' experiences this third interview focused on memory of the Think Aloud interview. Giorgi discussed the importance of keeping the questions focused on a single mode of consciousness specifically through a critical reaction to the previous interviews. This interview confirmed themes that had begun to emerge.

It was anticipated that if students experienced a flow state during their self-reporting of their creative experience it could produce a connection between consciousness and intentionality. The flow state did emerge through the use of words and phrases such as, 'in the zone', 'chilled out', 'zoned out', 'into it', that identified the meaning of a flow experience. The real meaning derived from participants' experiences with creativity were derived, "not presupposed or assumed" (Moustakas, 1994, p. 46). Understanding that the students' descriptions of what creativity was and whether they had

experienced a flow state was the central focus of this study. To have a sense of intentionality was understood to mean, "understanding …primarily mental or cognitive, and not practical" (Sokolowski, 2000, p. 8). It was the description of what was 'inside' the students' minds that helped describe the phenomenon.

In essence this study is studying creativity from a distance. Because of this fact, phenomenology relies heavily on the researcher's intuition. My background knowledge has helped structure the data collected from the participants. An examination of noema and noesis established the phenomenological conceptual framework for this research study. Moustakas (1994) posited that, "every intentionality is comprised of a noema and noesis" (p. 29). The noema referred to the consciousness of the phenomenon and represented how each participant perceived creativity, hence a textural understanding. The noesis was the underlying meaning of the phenomenon, or the structural dimension. During the final visit, after the three structured interviews, examining the wholeness of the participants' responses, through a synthesis of noema and noesis, built a relationship with the concept of intentionality. Viewing and describing their own artistic creations helped further phenomenologically express the students' voices.

Recording in-depth interviews produced a high volume of text that needed to be reduced to make sense of the most important and relevant information (Seidman, 1998; Miles and Huberman, 1984; Sokolowski, 2000). The interview text reduction was a very inductive rather than deductive process. Meaning that the reduction did not address any proposed hypotheses or theory, it involved identifying emerging ideas. According to

Seidman, "the interviewer must come to the transcript prepared to let the interview breathe and speak for itself" (p. 100). To achieve this inductive reducing of the interview text required marking passages that tended to reveal either how the students became creative or words and phrases that indicated a flow state. This process of reduction came with a level of anxiety about falling into what Seidman called, "the trap of self-delusion" (p. 100). Both the past knowledge and an awareness of over internalizing the interview material reflected characteristics of qualitative research methods. Miles and Huberman (1984) described the reduction process as the most difficult step because deciding to eliminate certain aspects of the interview becomes challenging.

The second step in analyzing the interview data was designing participant's profiles, also known as vignettes (Seidman, 1998, p. 102). Shaping each participant's reflections provided a "profile in the participant's own words" (Seidman, p. 102). These profiles or vignettes enabled the interview data to take on shape and represent individual narratives of student's personal experiences with creativity and while revealing a flow state. Two copies of the profiles were produced using a word processing program. The first copy became the original reduced interview transcript and the second was used to form themes. The identified themes structured the third level of analysis. One key aspect to this process was to establish a first person narrative communicating individual voices of the phenomenon.

The third process of analysis was a full reduction of all interviews and the Think Aloud transcripts. Pseudonyms were provided for each profile. This organizational process established connections among the student profiles while exploring comments

and statements building a relationship between the phenomenon of creativity and a flow experience. It was anticipated that specific categories would emerge through the analysis of the profiles. Labeling these passages that supported themes that emerged became a type of classifying called coding the data. The coding was done by hand and then transferred into a word document on the computer. A software program, such as NVivo 9 could assist in the coding process. However, I elected to process the data through hands-on and intuitive approach. When working with the interview profiles, this approach helped reveal a synthesis of the participant's true views of the phenomenon. Connecting some of the participant's words to illuminate the phenomenon and linking them to the current literature provided for an independent view of the interview transcripts through a repetition of the passages building connections. This began the interpretation process that reflected the noematic and noetic interaction to reveal the phenomenon.

When an act of creation is intentional it will represent a sense of directed or self-guided study, an ability to consciously apply knowledge to create art. Moustakas (1994) stated that this internal process represented, "integrating the noematic and noetic correlates of intentionality into meanings and essences of experience" (p. 32). When students have developed certain beliefs about their own creativity it becomes creative self-efficacy, revealed by the moment when the student becomes aware of how they experienced the phenomenon of creativity.

Creative self-efficacy became an important criterion to help aid in the structure for data collection and analysis. It was anticipated that creative self-efficacy could potentially reveal a flow state during an act of creativity. Through the analysis

process, if a connection was revealed that reflected the creative self-efficacy criterion, it would establish the foundation of the creative-cognitive domain in art pedagogy. The interview transcripts would provide textural and structural dimensions of the phenomena. Focusing on participants' descriptions of the creative experience provided greater insight into the phenomenon. Moustakas (1994) described phenomenology as being derived from pure description, establishing the essence of the phenomenon under study. The student's individuality and own descriptions of the phenomenon were represented in the transcripts of the interview process. This data collection helped form an awareness that built on analysis, self-actualization, and reflection.

Data Collection

This study was organized to collect data from three interviews with each participant. The questions for each interview are listed in Appendix A, B, and C. The first interview was based on semistructured questions derived from research in creativity and flow theory. This interview set the context for the interview series and allowed students to get to know me as an interviewer.

Seidman (1998) recommended the three-interview series for educationally based research to fully explore the phenomenon. This three-interview series was adapted for this study to include a Think Aloud technique, for the second interview. Adapting Seidman's structure to include a Think Aloud provided an opportunity to witness students' cognitive processing while creating art. The Think Aloud is a technique where individuals are provided with an opportunity to say whatever is on their minds while

creating their artworks as a way to describe their creative process. It differs in one major aspect from the interviews process by asking participants to discuss what they are thinking while working on their art.

The study employed a framework that merged the philosophical structure proposed by Seidman (1998) with the more reflective approach described by Schön (1983, 1987), and Someren, Barnard, and Sandberg (1994). This combined framework allowed students to enter into a reflective state while discussing their own experiences with creativity in the advanced art studio. The Think Aloud method used as an interview strategy examines the cognitive processes or the individuals while engaging in discussion. It was important to add this level of interviewing to gain insight into how students are thinking while creating art. As students worked on their art, I was able to ask them questions about how they are creating, how they are thinking through their ideas, and what type of problems that they might have encountered.

The Think Aloud method employs a process of discussion while engaging in an experience. This strategy examined the reasoning process within a semistructured script allowing students to fully reflect on their thinking about ideas that they are actively working on. The inclusion of this interview technique illuminated a flow state as part of the experience. The structure of the interviews were clearly communicated and followed to help participants explore their own reconstruction of their experience with the phenomenon. Seidman stated that the three-interview series provided the best "structure that allows both the participant and the interviewer to maintain a sense of the focus of

each interview in the series" (p. 13). This focus and structure to the interview series helped organize the data collected for analysis.

The third interview in this series was designed to focus on the understanding of individualized experiences. This interview was guided by participant's memory of the Think Aloud interview. It was hoped that the three-interview structure would illuminate aspects of the phenomenon under study. By the third interview, it was anticipated that the students would become a little more comfortable discussing their creative experiences. Member checking with the participants occurred after each interview to help verify what was said and understood throughout the interview series.

The field journal became a valuable source of data collection and analysis. The journal recorded my own interpretations and reactions throughout the interview series. This strategy aided in revealing the phenomenon in more detail and helped bracket my own impressions. The field journal was organized using the Bailey (1996) guide for classifying field notes.

It was anticipated that through this collection of data sources, the voices and perceptions of creativity from the individual participants would support and complement historical perspectives by Gardner (1985, 1999), Amabile (1996) and Eisner (2002). These researchers have examined creativity from qualitative and quantitative methodological approaches, however the proposed concept of Flow Theory by Csikszentmihalyi (1990, 1991) might help reveal how creativity was experienced for teenagers in a high school art program.

Contemporary creativity research by Byrge and Hansen (2009) suggested

that to explore creativity, dialogue with students is at the heart of the experience. Listening to and understanding how teenage art students experience creativity helped establish what is known as the creative-cognitive domain in the visual arts. Through the interview structure high school students' perceptions of creativity may lead to innovative change in the 21st -century art pedagogy by allowing art educators to expand their critique and classroom discourse to include discussion about the cognitive process that facilitates creative production.

Field Journal

The field journal functioned on three levels. It allowed for the recording of the most important responses from the participating students and as such, it became a source for data analysis and interpretation. The field journal was organized using the Bailey (1996) method for field note analysis. The four categories that each day revealed included, Observational notes (ON); Theoretical notes (TN); Methodological notes (MN); and Analytical memos (AM). This method helped document personal notes into categories to aid in the data organization, analysis, and interpretation of the interview transcripts. Recording notes about the person, process, and place helped organize the data collected. In this section of the Field Journal, I was able to reflect on interpersonal interactions after each student interview. I was able to get an impression of each students' creative self-efficacy. Looking at whether the student seemed to be self-aware of how they produced ideas and created artwork represented an openness to experience or what Kenny (2008) called "inspiration or intuitive flashes" (p. 596).

Interviews

The research study included three student interviews. The first interview consisted of 12 questions, seen in Appendix A. The second interview, the Think Aloud technique used guided questions seen in Appendix B. The third interview was more reflective and relied on the participants' memories of the Think Aloud interview. These questions can be seen in Appendix C. Each question was open-ended and was constructed around historical and current research in the fields of creativity and flow theory. It was understood that additional questions might be asked for clarification. The interviews lasted approximately 45-50 minutes. The interviews were audio recorded and field notes were entered into the field journal. Following the interviews, participants were asked to review the notes from the field journal for accuracy. At the final classroom visit, the participants examined a draft of their interview transcript to provide another layer of confirmation.

The interview questions in Appendix A were structured to elicit responses related to creativity with hopes to describe the flow state. Each question was designed based on current and historical research in the field of creativity and flow theory. The questions were open-ended to allow for many possible responses that represented true reconstructions of the participants' experiences with creativity in the advanced placement studio art program. Further description of the development of the semistructured interview questions are described in the Instrumentation section that will follow Data Analysis below.

The second interview was based on the Think Aloud technique (Schön,

1983, 1987; Someren, Barnard, & Sandberg, 1994). These questions were also open-ended to help reveal a cognitive process associated with the phenomenon of creativity. These questions have been derived from the literature on reflective practitioners and the Think Aloud technique. These questions, as seen in Appendix B, were constructed to elicit responses about the strategies, theories, and technical processes the participants have engaged in for critical and creative problem solving. The interview was conducted as the students were actively creating a piece of art, in a conference-like space inside the classroom setting. This type of interview structure was designed to reveal the thinking process that the students continually experienced and constructed. As Schön (1983) stated this type of interview design, "takes the form of a reflective conversation with the situation" (p. 93). The participants discussed their decisions as they were creating a piece of art and described their own imposed structures on the process, which in turn focused on the underlying structure within the discipline of the visual arts called the creative-cognitive domain.

Physical Setting

The students were interviewed in a private conference room-like area located within the art classroom. During the interviews field notes were recorded that described the physical setting in more detail. According to Zenasni, Besancon and Lubert (2008) the environment, in this case the art studio classroom, needed to be supportive to foster students' creativity. In the second interview, the Think Aloud, students were

actively engaged in creating a piece of art. The final interview was based on memories to help the participants reveal a deeper understanding of the phenomenon.

Data Organization

Collecting data from three semistructured interviews, where the second one was the Think Aloud technique, along with a field journal helped secure a broader understanding of the phenomenon. The interview transcripts were converted to a PDF text word document. This allowed for several reviews to be done of each transcript without any modifications. These electronic files were stored in an encrypted folder on my personal computer desktop. All data collected through interviews, inclusive of the Field Journal, will be saved for a minimum of five years and then will be deleted from my desktop computer.

Individualized pseudonyms were assigned to each participating students to ensure confidentiality. For example the first student interviewed was assigned a name, like Alex and then all the corresponding data associated with this student was encoded with his name. Under this scheme, the first interview with Alex was coded as Alex I#1, the second interview with Alex appeared as Alex I#2, and so on. This process helped organize the data and address confidentiality.

The field journal used the same coding system. As I interviewed Alex, the notation appeared as Alex FJ#1 and so on. I provided an entry after the interview that represented my researcher's reflections. This field journal was scanned and saved as a

PDF for data organization and analysis. This folder was saved in an encrypted file on my personal computer and will be deleted after a five-year period.

Data Analysis

Miles & Huberman (1994) described a process of data reduction that was used as both an anticipatory technique before interviewing and organizing the data for analysis. The process included "selecting, focusing, simplifying, and transforming the data" (p. 10). This technique is similar to what Moustakas (1994) described as phenomenological reduction. Before organizing the data, I conducted phenomenological reduction, by keeping a record within the field journal any preconceived idea, judgments and bias.

The various stages of data analysis in qualitative research can be conceptualized as an interrelated process versus a hierarchical approach. The process began with a close reading of the interview transcripts to gain a general sense of the information gathered.

A process described by Moustakas (1994) called the Van Kaam Method of Analysis of Phenomenological Data included the following structure for analyzing the interview transcription: (a) listing of all relevant information about phenomenon (called Horizonalization); (b) test each expression or description for two requirements: contains a moment of the experience –essential for understanding the phenomenon, and eliminate overlapping and vague references to the phenomenon to allow horizons to appear and become the invariant constituents of the experience; (c) clustering and developing themes

based off of horizons of the experience; (d) application validation – check the themes against the complete record of the research participants; (e) individual textural description should be constructed for each participant –including verbatim examples; and (f) creating a Textural-Structural Description of each meaning and essences of the experience for each participant (Moustakas, p. 120-121). These procedures helped establish this structure for analyses for both the interviews and field journal. The focus was on horizons. While sorting the data, certain phrases were repeated by the participants that established the horizons to reveal aspects of perceptions of creativity and flow state.

Grouping of the data was the first process to help describe the phenomenon. This helped describe the students' perceptions of their own creativity as well as organize the responses into groups that addressed both research questions. Organizing the responses into groups that suggested perceptions of creativity and references to a flow experience aided in the analyses. Because the transcripts and field journal were pre-organized, the data was easily sorted and classified by hand. A process called horizonalization, meaning that all descriptions have equal value, was used to classify the descriptions. By asking questions while grouping the data, specifically focusing on whether the data contained descriptions of the experience and whether or not a flow state was mentioned enabled the data to take shape. These became the horizons. They were created through a repetition of descriptive terms. From the horizons coding, clustering and thematic organization progressed to the analysis stage.

Horizons became established through line by line transcription. This

process constructed categories that represent similarities. While listening to the

transcripts, and reading memos in the Field Journal provided and helped "develop

tentative ideas about categories and relationships" (Maxwell, 2005, p. 96). These

horizons functioned as coding and followed a phenomenological structure that included

identifying significant statements made by participants and to create emergent themes.

These themes provided an avenue to what Moustakas (1994) defined as essence

description. Structurally the data was classified into various themes that have 'like' words

to help provide meaning to the participants' responses. After the categorizing or

clustering stage, the themes developed providing some additional details about the

participants' creative experience. In addition, an added member checking was employed

before the analyses were finalized. Three peer educators that hold doctoral degrees in

education reviewed the coding and themes to help determine if something was missing.

The analyses included verbatim examples from the interview transcripts

that supported and provided more information about what the participants experienced as

well as aided in the analyses. The analyses became a source of information in the art

education research community as well as helped provide for positive social change for art

pedagogical practices for the 21st century.

Issues of Trustworthiness

It is important for qualitative research to provide results from the study

that contribute positively to the academic community. In order to strengthen the study

and provide a level of trustworthiness of the findings a small group of students outside of

the research group helped test the questions to establish intended goals. This review provided valuable feedback before the study began. As Merriam (2002) stated, "trustworthiness has to do with issues of internal validity, reliability, and external validity or generalizability" (p. 31). Issues of internal validity specifically addressed reliability of the study's structure. For example, the study's use of a consistent interview structure provided participants with the same questions in the same fashion establishing internal validity. Bias was always a concern, however in a phenomenological study, acknowledging personal bias became important to avoid influencing the responses of the participants. External validity focused on stabilizing the conditions of the interview process. Making sure that each interview transcript was examined and analyzed using the same explanations and meaning. This study incorporated specific strategies to address credibility, transferability, dependability and confirmability in the qualitative research tradition. To help manage as many details as possible while concealing the identity of each participant they were asked to review the entries after each interview for accuracy.

Credibility

In qualitative research the source of data collection and analysis is based on the researcher's interpretations. Because of this closeness with the participants and the phenomenon under study, creativity and flow theory, "internal validity is considered a strength of qualitative research" (Merriam, 2002, p. 25). To provide validity to the study's findings, triangulation of multiple interviews and field journal were used. Data from three different semi-structured interviews, the second being a Think Aloud, and

notes in a field journal were organized to provide triangulation. What each participant

shared in the interviews was checked against what is written in the field journal. The field

journal acted as a source to check the accuracy of the interview transcripts.

The first strategy to address research bias and trustworthiness was member

checking. After organizing and analyzing the data, encouraging participants to review the

findings for confirmation of accuracy helped secure an element of trustworthiness, thus

established an awareness of the results as being convincing and credible. Two additional

strategies were used. The techniques used were: peer review, and a student question

sample. These two strategies helped establish a level of trustworthiness. The three

colleagues who have received their doctorate's in education helped review the codes and

themes that emerged from the reduction process. One colleague was a supervisor who

oversees doctoral candidates at a local university and works as the program director of

the International Baccalaureate program. The second and third colleagues have just

finished their doctoral studies in education and work at the high school. All three

colleagues are familiar with qualitative research methods. The second strategy that helped

establish a level of trustworthiness was the student question samples. Three students

enrolled in my advanced placement studio art class were asked to answer the research

questions to the best of their ability. This helped refine the questions that were used for

the semistructured interviews. These three students acted as informants prior to the study

to help validate the questions and ensure that they were clear. These students only

participated through the testing of the questions.

By eliciting the help of three educational colleagues holding doctoral

degrees as peer reviewers established, "a process of exposing oneself to a disinterested peer in a manner paralleling an analytic session and for the purpose of exploring aspects of the inquiry that might otherwise remain only implicit within the inquirer's mind (Creswell, 1994, p. 308)." This strategy is twofold. The background in research these colleagues bring to the review provided accuracy of the themes and coding process. In addition to verifying proposed themes, the expertise of the colleagues helped establish a peer-review within the logical analyses proposed in the findings. Discrepancies were minimal as they were identified. Providing educational colleagues in the review process enabled a heightened level of trust in the codes and themes as well as initiated some conversation dealing with proposed social change implications of the study.

Another strategy that became embedded throughout the research study was called researcher's position or reflexivity (Merriam, 2002, p. 31). The field journal was used during the interview process, which included thoughts, reflections, assumptions and any biases that emerged. This field journal helped ensure a measure of trustworthiness of the findings. This self-reflective practice established an honest and open process, which added a level of trustworthiness and a trusted belief in the findings.

Transferability

To address the ability of this research study to aid in the development of future research in the areas of creativity and Flow theory, essential elements were considered in the overall design of the study. The overall goal was to design the research study so that it provided substantive results that will spark the imaginations of future art

educators. One strong characteristic of phenomenology is the advantage of solid participant responses. Phenomenology is rich in descriptive information about the phenomenon under study. Description and the ability to expand on personalized experiences with creativity helped improve the analysis and ability to transfer the results of this study into future studies as well as supporting transformational art education practices. With the elaborate descriptions came the ability to analyze and possibly reuse the original data to fully understand student perceptions about their own creativity. This will improve the overall transference of the findings. Comparative themes could be established through additional research methods to establish a foundation for positive social change in art education.

Dependability

Dependability of a qualitative research study was revealed in the strategies outlined above, such as triangulation of data, peer review, and member checking. Dependability referred to how trustworthy the information was and how the data sources were analyzed. To improve the dependability of this study the use of a field journal became a source for an audit trail. The field journal included a full description of the procedures and listed the sequence of entries. The field journal included reflective notes before, during and after the interviews. The recording of the data collection process became a strong guide for this phenomenological study by helping provide structure for the research study and data analyses.

Confirmability

Researcher's reflexivity is the key to addressing confirmability of the study. Confirmability helped support the established premise as well as allowed the data to reveal the phenomenon. Seidman (1998) raised some extremely important questions that addressed confirmation of research findings. Seidman suggested that "researchers must ask themselves what they have learned from doing the interviews, studying the transcripts, marking and labeling them, crafting profiles, and organizing categories" (p. 110). Asking these as well as other essential questions transforming self-reflection. For example, the field journal included critical self-reflections in addition to addressing some assumptions and biases about creativity and the flow theory. Practicing reflexivity helped reveal all aspects of the research study. It became an element in the transparency of the research study's design, data collection, and analyses and interpretations. This process provided clarity of the suggested findings to aid in further research. Self-reflection as a form of confirmability established and identified clear goal with the process while comparing alternative perspectives on the phenomenon under study.

Ethical Procedures

This study asked teenage students to participate, therefore special permission from the county's assessment and research department was required. A full review of the research proposal needed to be provided to the director to safeguard the rights and needs of the students. The director of research and assessment in the district's administration office reviewed, made suggestions, and approved the research study. The

high school principal and art teacher from the participating high school agreed to the research proposal. Walden University's Institutional Review Board reviewed the research design, made suggestions, and approved the proposal for Ethical Standards in Research.

To protect the students participating in this study a student assent and parental consent forms were provided for each student. The first 12 students who volunteered to be interviewed may refuse to share any response or refuse to answer any question throughout the process. The questions will not impact their ability to be successful in the AP studio art class. Furthermore, their names will not be used and will remain anonymous in the official dissertation publication. By employing the above strategies addressing credibility, transferability and dependability helped reduce unforeseen ethical dilemmas.

Summary

In summary, the implementation of the study examined to what extent teenage students' experience the flow state while they creating artworks. This chapter outlined and described the rationale for using the phenomenological qualitative research paradigm to isolate and illuminate the students' perceptions and was described as students' voices in this study. It was hoped that as students expanded and described their creative experiences, a greater understanding will build a pathway toward envisioning new approaches to art instruction focusing on the students' experience of flow during the process of creating art.

The students selected for this study were enrolled in an Advanced

Placement Studio course at a local high school. These students have had at least two

years of visual arts instruction at the high school level and were more apt to experience a

flow state while creating art. The first 12 students that provided the necessary student

assent and parental consent forms were selected to participate. They were asked to

participate in three semistructured interviews discussing their experiences with creativity.

Student participants were asked to share their artwork during the second interview, the

Think Aloud, as it helped them describe and define what it means to be creative.

The challenge was to discover what is really 'true' about this phenomenon

and how this knowledge advance positive social change for transformative curricular

design in art education. The purpose of this qualitative phenomenological research study

was to examine and to fill this existing gap in art education.

The strategies used to increase credibility, dependability, transferability,

and confirmability have been discussed in this chapter to function as an added check and

to establish a reliable research design to address students' perception of their own

creativity and whether or not they have described a flow experience. Chapter 4 presents

the results of the findings inclusive of the research interview strategies and field journal

notes. Chapter 4 also includes an analysis of the phenomenon, discrepant data, and any

rival explanations to the conclusions and implications.

Chapter 4: Results

The purpose of this research study was to examine American teenage art students' perceptions of their own creative experiences in an Advanced Placement Art Studio classroom. Through three semistructured interviews, participants described their own experiences with creativity, which were explored as manifestations of the flow state. The results of this study shed light on the newly emerging creative-cognitive domain in the visual arts.

This chapter is organized to address the primary research questions guiding this study:

1)   How do high school students perceive and describe their creative experience in an advanced placement art studio?

2)   How do high school students perceive and describe the connection between the phenomenon of creativity and a flow state?

Emerging themes with supporting vignettes extracted from the interviews and analysis of the field journal were woven into the findings to support the answers to the research questions as well as triangulate the data.

The overview section of this chapter establishes the foundation for the emerging themes and describes any adjustments made to the research method, how the planned method actually worked, the steps in methodology, and the results of the data. The Van Kaam Method of Phenomenological Reduction was the planned and implemented structure used to establish the study's themes. The four themes discussed in this chapter are: *influences, mindset, self-efficacy*, and *emotions*.

Overview

This study recruited 14 willing participants from the Advanced Placement Studio Art program at the U.S. high school used in this study. I interviewed the participants according to a schedule that I organized in order to best meet the needs of the participants and the high school's curriculum. The first and third interviews were scheduled around the participants' academic schedules, and took place either before or after school, or during: lunch periods, study halls, and On-the Job Training (OJT) internships. Minimum impact to the participant's academic schedule was a significant component of the data collection. The second interviews were conducted during the participants' scheduled AP Art Studio class, and used the Think Aloud technique that required participants to actively engage in creating during the interview. The planned schedule and method for collecting data did not deviate from the intended implementation.

The interviews took place inside a small conference space provided by the study site that was inside the art classroom. This conference space was normally used for artwork preparation for exhibition and storing supplies. Although this space was very convenient for maintaining privacy for the participant's being interviewed, the level of noise from the surrounding studio and other classrooms could be heard, but did not affect data collection or interviews.

The 14 participants who volunteered to become part of this study included two males and 12 female students. Nine of the 14 volunteers completed all three semistructured interviews. Out of the 14 original volunteers, five students withdrew from

the study after the first interview. Two of the students who withdrew had stated that they shared all they knew about creativity in the first interview and the remaining three students who withdrew did not show up for school on the scheduled days of the interviews. As a result, only one male student continued throughout the interview series resulting in eight females and one male participant. The small number of male participants was a limitation of this study.

Each of the three interviews lasted between 22 and 37 minutes each and audio-recorded using a MacBook Pro. I used verbal reminders to facilitate and secure participation in the interview series. Participants were reminded of their next scheduled interview and provided with a brief overview of what would occur, for example, after interview series #1 was completed, each participant was reminded of the next scheduled interview and noted that interview #2 would be in the art classroom as they were working on their artwork. The interview series span was conducted over a five week period to accommodate the participant's academic schedules. Three participants were pursuing post-secondary study in the visual arts and as a result had the longest interviews. The nine participants were sufficient to fully saturate the results because each interview provided unique stories about their journey through the creative process but also provided some strong overlapping comments that helped support the answers to the two primary research questions. Commonalities among the participants provided clarity of the creative experience and validity for the emerging results. Unique differences with the creative experience established a vivid picture that revealed each participant's story.

Designing participant's profiles or vignettes, shaped the intentionality of
the individualized experiences. Establishing connections among the vignettes illuminated
a relationship between the phenomenon of creativity and the flow state. I classified the
participants' vignettes to address the research questions. Originally NVivo 9 software
was intended to aid in the organization of the data, however working with the individual
vignettes by hand provided a better understanding of the similarities in the comments and
distinctive differences in participant's perception of creativity. Having a closer
connection with the words in context helped to fully visualize what was evident in the
data. Constant reflection along with intuition aided in the understanding and thus
meaning of the interview vignettes.

Emergent Themes

The theme of *influences* provided some answers to how students perceive
and describe their own creative experience. This theme was mentioned by all participants
in every interview. Varying sources of inspiration were mentioned spanning from
research to observation within the natural environment. However, music and poetry were
the two dominating influences mentioned by the participants.

Influences

Influences became a theme to describe what participants shared about their
ideas, for example, music and poetry were commonly mentioned forms of creative
inspiration that the participants used before making art. Many of the participants
described researching a variety of artists who had aided in their own artistic development.

Nature and the environment were also frequently cited sources of inspiration for the participants. Being in nature or aware of the surrounding environment helped guide the participants' creative efforts. Two participants mentioned a work's audience as a significant source of inspiration. When asked to elaborate on this source of inspiration, they both stated concerns about how the audience would perceive and interpret their artistic creations and this concern became a factor in how they created art. One participant also described dreams as a great source of inspiration and kept a dream diary by her bedside and recorded ideas as she woke up in the morning. She used the diary to trigger memories of dreams to construct compositions in the art studio.

Vignette 1. All but one participant described the use of poetry in the process of creating art. Most of the poetry was written while creating art in bursts of inspiration. One participant, Hannah, directly wrote her poetry on the back of the canvas as she was painting. She would further develop the poetry in her sketchbook, that she carried everywhere. From interview series #2, Hannah shared,

Well, I think for me I just know I want to do a portrait and then I start doing research or reading or just sketching out ideas. Then I work with the face, the background, then back to the face. The proportions are much better on this one. But you know I would never go back and change this painting when it is done. The Enlightened One is what I call or titled this painting. It has a certain African influence but it really comes from my poetry. I write poetry on the back of my paintings because they are declarations of my realization or maybe it is the oil paint smell in my studio at home (laughter). My poems are really just a continuous stream of thought. I keep a sketchbook

with me at all times and it is filled with poetry and sketches. I write a lot of poetry like about 10 a month. It is inspirational, it fuels my artistic work.

Phenomena provided a differentiated path toward intentionality, and although creativity became a shared experience in this study, participants remembered events as opposed to actively living with the phenomenon in consciousness, thus producing variations on the concept of intentionality. However, one variation to this was the interviews with Hannah. She found it essential to share the actual artwork during every interview as she was describing the creative process. The process and product became a unified whole for Hannah (the person). Hannah's experience supported previous research by Marshall (2010) by contextualizing process, product, and person as a way to reflect on creativity. The artwork took on a life of its own and became a reflection of Hannah's inner world of conflict. It might be easy to say that the production of art became therapeutic for her, but it was more than just therapeutic.

Hannah had the need to bring forth the presence of the objects (artworks) through digital media. In this case, it was necessary for Hannah to intend the painting to give it an identity. Hannah brought forth an objective side of the painting's identity through a "correlation between the conscious subject and the object" (Sokolowski 2008, p. 38). This sharing of the painting fulfilled the intention, providing what Sokolowski suggested as "an act of recognition, an act of identification" (p.38). To know Hannah's creative experience could not be separated from knowing her identity. This was true for Hannah throughout the interview series.

It was clear that Hannah produced a certain rhythm between her use of

poetry and artistic creations. Although the basic structure of poetry was different than the actual canvas painting, they had the same importance or essence. Just as a reader can examine and identify a certain pattern within the poetry, the same sensation was achieved when viewing the painting. This pattern and rhythm become a stylistic device and demonstrated a temporal quality that unified the aesthetic features. This aesthetic awareness maintained the artist's attention and intention. Both art forms, poetry and painting, operated through a spatial-temporal dynamic. Poetry and painting allowed for meaning to be constructed through a cognitive ability that transcended the production of both and thus maintained the identity of both. The benefit of incorporating poetry within the visual arts expanded how the audience perceived the meaning and existence of the two while transforming the conception of both. The transformation can be guided through new ways of perceiving either the painting or the poem. This dynamic alerted visual attention and engaged cognitive processing. This cognitive structure had the potential to create limitless expressions of aesthetic awareness as well as providing a gateway into a flow state.

Claire's creative process and inspirations were similar to Hannah's in the sense that knowing her creative work entitled the viewer to know her on a personal level. Both participants studied and were inspired by other artist's work; Hannah was more fascinated with and influenced by art history where Claire was influenced by contemporary digital artists. Claire shared the following in interview series #2:

Vignette 2. Inspirations comes from things in my life. I love to go to the beach and look at the water and I am really fascinated with how things look in the water. I look

at a lot of artists. They are not so well-known, but I go to their websites and explore how they are creating art. I love to research other artists but my art is really within me and that is how it comes into being.

A sense of personal identity was mentioned in several interviews while participants were describing their creative experiences as well as defining their inspirations. Similar to Hannah and Claire's comments, Fiona described during interview series #1, that her own thoughts about creativity become part of her artwork in a very personal and private way. Kara described a very similar process while working on her art. It became a certain mental process that produced a personally satisfying result. The artwork became a reflection of the student's identity.

Art created identity. Art connected the viewer to the creative experience resulting in new ideas about identity. According to McPhillips, Mudge, & Johnston (2007), "identity is a struggle and not a given, and that multiple perspectives of self in the development of identity is experienced as a positive embodied value" (p. 233). The participants in this study perceived their own identity through the process of creating art and understood the relationship between the viewer, artist, and art work. Lola and Iris both described the importance of the audience's reaction toward their artwork. This concern led both participants toward a creative pathway that limited their private emotional feelings to be evident in their artwork. However, they still wanted to create work that was "outside of the box". Lola stated that "you do care what people think, but then you don't". She continued by sharing that "although you are always thinking about

the audience, and that you still want them to ask questions about your work, you don't

have to answer through language".

Iris stated that it had taken her a few years to realize that her work was

being interpreted differently by her audience. Her intended ideas were not coming

through effectively because she was putting in so many ideas into one piece. All of these

ideas were taken from research on other artist's work. She shared, "I try to keep my work

lighthearted now, and sometimes less is more". Iris used her research as just a starting

point instead of trying to include all aspects of a piece of art that was personally

inspirational. By limiting her work to just one idea and one source of inspiration helped

her understand the compositional strength of her own creative production. It provided Iris

with a sense of personal freedom through an emerging identity.

Vignette 3. Miranda shared her inspirations and thoughts about creativity

in interview series #1 and elaborated on what it means to be creative through a feeling of

connectedness.

Being creative to me is coming up with your own ideas that you are

thinking and like you see something you get inspired and then you come up with your

own original ideas. If you take something from someone else you create different

versions of it, you know what I mean? You come with an idea and you see the vision in

your mind and if you are able to see that it is unique and you created that idea even if it is

not the most original it is still creative. You can never control when you are creative.

When I am creative I see something like on the computer or watching TV and then all of

a sudden I get this really creative idea. Creativity is not for everyone. I am organized and

sometimes I am very messy and I do not organize that much, but when I focus on my art I have everything in front of me so I can grab what I need. I am in my own little world with my own music playing. I am not bored at all. I really love doing art.

Flow State

Intrinsic motivation and an openness to experiencing new ways of knowing art helped these participants enter a creative experience and revealed a flow state while actively creating art. Miranda was the first to describe the essential need to study the visual arts, present herself with challenges, and to get into the moment or as she said, "get hyped". Shauna also shared that to really create a meaningful message in art she had to "try a million times and get lost in your work". Many examples of the creative-cognitive domain were evident in the participant's responses and were reinforced through the theme of mindset.

Mindset

The theme of *mindset* also hinted at a flow state because it represented a focus on ideas. This theme was organized with the horizons extracted from the transcripts through the use of thinking about art or in some cases not thinking while creating art. It was interesting to hear how participants described the process as not thinking during the act of creating. This was clear evidence that this state of consciousness was linked to flow theory. A clarification of this reflection will be revealed in the vignettes that follow. While reviewing the transcripts, 7 out of the 9 participants described how they 'go with the flow' or 'get into the creative zone' to produce art that represented "personal

experiences, having strong messages, are out of the box, connecting to spirituality, and tapping into imagination". To elaborate on spirituality, 2 out of the 9 participants described a meditative and subconscious state of being while creating art. The following vignettes helped support this study's research question that explored how students perceive and describe the connection between the phenomenon of creativity and the flow experience.

Vignette 4. Eddie described 'being in the zone' in all three interviews. This was a direct association to the flow state. He shared in interview series #1 the following:

It is like when you are in the zone. That is how I think about it. Nothing original ideas are coming into my brain. I am thinking about nothing. I feel like I am in this other world - in a zone.

Eddie, being the only male student to finish the three interviews, was the only discrepant case having expressed a very linear, "mathematical approach to creativity" (his own words). Eddie was a very polished young man thinking through every response carefully to articulate concise and meaningful answers.

In comparison, Miranda and Bridget were very animated through gestures when discussing and describing their creative experience. Miranda stated how she was "really hyped" when sharing the creative experience while Bridget described her artwork as "live performances". Both were highly engaged in the discussion about creativity and both mentioned how their minds race while they are doing art. Creating art became a very physical experience. Kinesthetic awareness was only acknowledged by two of the participants, Miranda and Bridget, but most of the participants were highly engaged when

describing their creative experience. The kinesthetic sensation and thus the rhythmical patterns of artistic creation produced a sensorimotor reflex in the participants.

Vignette 5. In contrast, Claire's description of what she thought about when creating art was much more subdued and reserved. During interview series #1, Claire shared: To be honest, I really don't know what I am thinking when I create art. I wander off in different worlds and different realms. It is a process that takes time. I don't do a piece all at once. When you try to like force yourself to be creative you cannot. I kind of just try to clear my head although I research artists, I try not to be too influenced by them. I want my ideas to come from within me.

Claire was very reflective and mindful of her comments when describing the thinking process that resulted in the creative experience. This understanding of the participant's shared experiences became an intellectual turn toward philosophy. Entering the phenomenological awareness of creativity and the flow state was not trivial. It became an area that is slippery and is hard to hold onto; it is a place where philosophy introduces itself. This optimal experience, creativity and the flow state, are deeply rooted in philosophical inquiry. An unexpected part of the interview series revealed this strong link between a flow state and philosophical inquiry into creativity. While interviewing the participants it became evident that these students think deeply about what they are creating and clearly made connections between a flow state and the creative process. These results were produced by the participants as a result of the interview questions being semistructured and provided them with room to elaborate and deviate from any prescribed answer. As a result of this phenomenological method of data collection, all the

participants provided a glimpse at this philosophical inquiry by stating key comments such as letting their "mind wander, getting into the zone, creativity is intuitive, almost black-out while working, and putting yourself in the zone" as the mindset or cognitive state that their minds were going through when creating art. Two of the participants elaborated in more details about their psychological mindset while creating art.

Vignette 6. Hannah shared, in interview #1, a spiritual side to her artistic intentions that presented the notion of transcendence. Hannah was unique in the sense that she could share her creative work and thinking process for hours and days and she found the scheduled interview structure too limiting. She wanted to spend more time sharing and extended her email and social networking site as sources to keep in communication. Sharing with Hannah was engaging, both physically and intellectually, and much more spontaneous than the other participants. The length of the interviews, for most of the participants, was appropriate and half of the participants seemed exhausted after the interview session. However, it was the opposite for Hannah. Hannah was always ready to provide additional information about her work and process. It was helpful that I entered the interview series with knowledge and respect for the complexity of her artistic work. It helped that the art teacher treated the interview series as tremendously important in advancing art education practices. Hannah had made a personal connection and felt very comfortable sharing her creative thinking and artistic work and frequently discussed a strong spiritual connection with her creative work. Based on the field journal's observational notes, Hannah would position her body closer to me when sharing her responses.

To me the whole art experience is metaphysical and spiritual. It is divine to have that sort of extra skill - creativity. Creativity is something I think a lot of people lack. It is spatial and cosmic and is like angelic to be in the creative state. To me I am connected to my own god when I am working on art. It is my meditation. When I am making art I think it is a mixture of things sometimes I am not thinking at all, like the Buddhist and Hindu say like with meditation you clear your mind and the only time I really achieve that level of creativity is when I am in that state.

Hannah's artwork was deeply biographical and she developed metaphorical layers. Her artwork was an extension of herself strongly indicating powerful engagement by the viewer through the intersubjective processes of interpretation, aesthetics, and spirituality. It was also evident, through observational notes, that Hannah's body movements helped express her engagement through arm gestures and moving in closely when sharing her creative experiences. McPhillips, Mudge, and Johnston (2007) called this "a poly-perception" when engaging in the artwork that represents multiple layers of interaction (p. 247). Poly-perception through multiple levels of knowing, such as intellectual, spiritual, aesthetic, intuitive, etc. constructed a unique viewing experience. Viewing, reacting, and understanding this artwork required the whole body.

Vignette 7. In comparison, Daisy's description represented a heightened awareness that became a physical sensation.

When I am creative I let my mind wander. I almost get a feeling, like an

excitement and think this is really different. In my dreams I get ideas all the time. I write them down in a notepad near my bed, creativity is like a subconscious state. When I am working on a piece of art I get this feeling, like a subconscious feeling, that yes this is going to be successful. I am in my own world then. My thought process is just let it go. I get like euphoric. I get really excited and I get really excited about my ideas. I get really focused when I am creating art and really serious about what I am doing. Sometimes you just need to go with the flow.

Perhaps the entire body responds to the act of creating art. The flow state might awaken the brain's capacity to creatively produce, thus initiating a bodily sensation. When Daisy was thinking about creating art many possibilities came into her mind, a fluency of ideas, and with greater concentration and elaboration she was able to focus in on the one idea that produced the kinesthetic, bodily, sensation.

Susanne Langer's seminal work *Feeling and Form* (1953) described how emotion does have a rational component, although its cognitive aspects might not be fully realized, but they appear as physical sensations. The brain, when processing the idea, produces a physical sensation based on its novelty. The idea that has been created increased the neuronal response in the brain's right hemisphere. Watling (1998) suggested that this physical sensation, the neuronal response, is activated in the right hemisphere because it is "typically thought to respond most to holistic and novel input which in turn is linked to the emotional centers" (p. 117). Without this neuronal response, a creative idea will not be fully realized or brought into consciousness or according to Watling will not be "utilized for further cognitive experiences" (p. 118). One of the

biggest surprises when interviewing participants was the amount of physical activity

involved in explaining their experiences. It was essential to conduct three interviews to

initiate this level of emotional and cognitive engagement. Seven participants became very

animated while sharing their creative experiences. In contrast, two of the participants

were very contained and reserved while sharing, although each had clearly shared an

experience with a flow state while creating art.

Vignette 8. A focus on the mental sensations instead of kinesthetic responses was

experienced by Lola with her description of mindset while creating art.

It is never one specific thing in my mind when I am creating art. My mind

is always running and thinking and I can multi-task so I can think about one thing and do

another. It is like explosions or fireworks going off in my head.

Further discussion with Lola suggested that creating art was her escape

from the pressures of life. Her art was a way to create meaningful connections with the

world. McPhillips, et al. (2007) described this connection as, "art connects us to each

other and because it suggests new ways of being self" (p. 247). Lola held back

information about her process that separated her from others and her artwork became the

transmitter of the message. Her artwork set up a series of personalized contradictions

juxtaposing a desire for freedom and a level of entrapment. This intersubjective dynamic

created multiple forms of self-expression and provided the viewer with a message of

adolescent struggle. Reflecting on her epistemological standpoint, Lola helped the viewer

construct shared experiences with memories from their lives. Being willing to share

memories and ideas about identity required all the participants in this study to have a level of self-efficacy.

Perceptions of Creativity

While the participants shared their own perceptions of creativity in every interview session, it was helpful during the reduction process to see a clear connection between students' perceptions on creativity and a developed level of self-efficacy.

Self-efficacy

The theme of *self-efficacy* represented participant's descriptions that reflect intrinsic motivation. Participants mentioned how the art teacher inspired and motivated them to continue working on their ideas. This was the external motivation aspect that influenced and built students' self-efficacy. Amabile (1996) described through the analysis of the *Consensual Technique* in creativity assessment that "extrinsic motivation can increase without any negative impact on intrinsic motivation or creativity" (p.117). Students in the Advanced Placement Studio Art class have already experienced some success with the visual arts and have received feedback from their teachers that helped enrich the development of self-efficacy. Continued successes is one way that builds student's desire to seek their own challenges in art. During the semistructured interviews, these participants possessed a sense of confidence and expressed a high level of engagement within the visual arts. The following vignettes demonstrated self-efficacy through a personal desire to be creative and helped provide answers to the research question asking how students perceive creativity.

Vignette 9**.** Abby shared in interview series #3 how previous experiences and successes helped her become more confident about her art making process.

I think about what is going on and think about how I want things to look. I am usually really relaxed now when I start creating art. I have just realized that I have a certain style and process. I look at how I am doing things more often now. Not everything will be the same but if I don't like my work - I can trust that I have a process and I will be successful if I follow my process.

Csikszentmihalyi (1991) described the consciousness associated with a flow state "to develop this trait, one must find ways to order consciousness so as to be in control of feelings and thoughts" (p. 24). Some of the participants, such as Abby, needed to find their own process to structure the creative experience. When students established their own structure for working, they felt a level of freedom to explore different ideas and techniques. This structure gave students a sense of power to channel their own creativity knowing a safety net was available, one of their own design. These results from the interview series helped establish a clear connection between a creative experience with a flow state.

Because consciousness and creativity are so elusive, much discovery of its hidden powers are for future dreamers and researchers to uncover. The results of this study clearly demonstrated creative consciousness revealed within a phenomenological method to bridge knowledge of real events from the student's experiences. Here the interpretation is not a focus on the neurochemical processes or biological origin of a flow state, but whether students experience this heightened awareness when creating art. It

became evident that all students experienced a flow state while creating art that was reflected in their comments associated with self-efficacy. The flow state had variations, specifically on the length of the flow state, as well as how flow was consciously realized.

Vignette 10. Olympia explained her self-efficacy as being connected with spirituality and setting high standards for her own creative work in interview series #3.

Art is so connected to me spiritually, it has formed who I am. Overcoming my fear of failure helps me see the beauty in mistakes. Making art is parallel to my real life. You know it depends on my attitude whether it is going to be beautiful. I always give myself an impossible art task. I always challenge myself. You have to give yourself a larger than life goal. You have to break the barrier. It is the synthesis of everything, reason and intuition coming together. Art is what makes us human once you take that away we have no identity - a legacy in a way.

Olympia was constructing her own spiritual descriptors that defined her creative style through the emergence of a flow state. She expressed self-efficacy through connecting everyday life events with her artistic creations to ultimately establish a deeper meaning in the context of her life and artworks. Schunk and Zimmerman (2008) stated that when humans progress from childhood toward adulthood "their self-efficacy beliefs are influenced by the people and events that make up their life" (p.115). The type of experiences students have will subsequently frame their future paths that in the arts leads toward creative self-efficacy.

Vignette 11. Bridget shared in interview #3 the importance of discoveries when creating art. Her interview provided some evidence to support the connection between creativity and a flow state.

Art opens doors the more you are creative. Because if I really love my work I want to work on it all the time and then it opens up new ways of thinking about my ideas and helps me discover and experiment with different material and ways to communicate ideas. It is a process that I really enjoy doing. I love the process and the thinking of making art. It gives me direction and it helps me feel good about myself.

Students who engage for long periods of time on a task use more cognitive strategies. They also enter a flow state that allows them to persist longer on a task to achieve a level of success. Bridget demonstrated a high level of self-efficacy through her discussion of self-regulating her own goals. Bridget expressed judgments of her own confidence and demonstrated specific self-regulated strategies to guide her own successes.

Vignette 12. Hannah shared her thoughts about her personal challenges that fuel her art making in interview series #3.

The creative experience is all about experimentation and exploration. My new painting is very different for me. It has become very challenging. It is very unfamiliar to me and but you know it will all come together. It is really hard. Art brings me a lot of stress but I really love it. The more I explore the more knowledge I gain, even about other artists. I have flashes or moments in my life or even smells or sounds that are

unconsciously put into my work. I gain a different view, a raw philosophy that is my

painting.

It was clear that Hannah applied self-regulation and self-efficacy through

her artistic journey. Schunk and Zimmerman (2008) described through this refrain, "the

journey embodies change, growth, and movement toward goals" (p. 211). Teachers assist

when needed, but the "quest-related strategies" (p. 211) are developed and established by

the students. Hannah displayed this higher-level aptitude toward measuring her own

successes and designing her own pathway toward a heightened awareness of the benefits

of learning within the visual arts. It was clear through Hannah's descriptions and

perceptions of the creative experience that a flow state was achieved, which led her

toward a more heightened awareness of her own artistic potential.

Vignette 13**.** Daisy described a level of freedom she experienced when

creating art in interview series #3.

I think being independent with art making gives me freedom and becomes

really exciting. I really didn't know if I was interested in art, never really thought I was

really good at art, but when I do my own work I get really excited. I have my own vision

of what I want to do. I am able to explore more ideas and processes. I guess before I was

being told I had to be creative (in art class) and I didn't know what that was and then

when I started doing my own stuff I really understood what it means to be creative. It

comes with experience, the more you play around with ideas and material, the more you

become creative and you get a great sense of joy when you are creating - like writing too.

Csikszentmihalyi (1996) explained that creative individuals are hard to

classify because creativity is a complex system. However, the personality of creative

individuals shares a particular characteristic. When engaged in the creative act they,

"adapt (creatively) to the particular domain, to the conditions of a particular field, which

vary at different times and from domain to domain" (Csikszentmihalyi, p. 56). Here it is

obvious that Daisy realized that the same creative process that ignited her artwork could

also be shared in the writing process. Experiencing a sense of great joy when creating art

and writing enabled Daisy to express a deep emotional connection with her work

resulting in a higher level of self-efficacy.

Emotions

The last theme to emerge from the reduction of the transcripts was

emotions. The participants reflected on how emotional feelings or features presented in

their artworks guided the creative experience. The following vignettes helped illuminate

this key characteristic of creativity and provided some answers to the research questions

guiding this study.

Vignette 14**.** Gina shared thoughts about emotions created in her artwork

in interview series #1.

When I feel deeply about something then I get really excited and start

drawing or painting. It is usually a really good idea. I like, I mean really love, creating

art, that makes me feel good. I like to express moods with colors in my art.

Vignette 15**.** Csikszentmihalyi (1996) described one special trait that all

creative individuals have "they all love what they do" (p. 107). It has nothing to do with

fame or money, the pure love of what they are working on drives them toward success

and personal happiness. Happiness, joy, and pleasure are characteristics that all participants shared during the interviews. When sharing their descriptions and perceptions of creativity their comments were all associated with a flow state. A deep sense of enjoyment after the flow experience rewards individuals and they tend to want to repeat the experience. Hannah provided some examples of her artwork in interview series #1 to help describe her emotional connections.

I have special feelings all the time when I create art. Anything from complete melancholy to bliss. I suffer from melancholy and sometimes it works in an opposite way -kind of like- me reflecting what I want to be, sometimes I am in a   good mood. My best work is done when I am in absolute despair. I have emotional reactions to my own paintings. Can I show you one - this one is called Odessa (shows me a painting on her iPhone). She has three eyes. When you look at my work it is all really strong women, well maybe not always strong, but interesting and very emotional. When I am painting these paintings I wish I could get inside and be there in the painting. When I was painting this one the energy was weird because the painting didn't like me. I am her life line and she doesn't like me. Paloma (shows me a different painting on iPhone) is like a mother figure and she likes me. I don't intentionally have these connections to my work, it just happens on an emotional level when I work in the studio.

When individuals with autotelic personalities become deeply connected to their own artworks they focus their energy and become part of the art process and product. Langer (1953) stated that "sheer conceptions evoke emotions, emotions focus and intensify attention, attention eventuates in symbolic expression that formulates more

conceptions and sustains or reshapes emotion" (p. 130). Building emotional connections

through creating art allows individuals to release anxiety and focus their attention on

activities that are personally rewarding. Hannah had an emotional connection to all of her

paintings. Each painting had a name and unique personality. The paintings reflected

Hannah's inner emotional state. She explained how she does not intentionally start out by

trying to create a certain mood in her paintings but, they take on a life of their own as she

builds the composition.

Vignette 16**.** Abby described a calming feeling that comes over her while

she creates art in interview series #1.

Usually when I am sitting there doing nothing and an idea just pops into

my head I have to start creating right away. Even if I am sad, when I am making art I am

usually feeling happy and not as stressed with life. I get really happy almost like an

overwhelming happiness and I feel like I can cope with stuff that I am going through. It

helps me get my mind off of it.

Art had become a way for Abby to cope with difficult times in her life

thus provided a claim for feelings as becoming emotions because they helped the brain

compute this feeling as a stimulus. Emotions are constructed from feelings and thoughts

and establish cognitive processing toward goal setting and well-being. Emotions help

establish a correlation with the creative-cognitive domain in art education. For some

participants emotions helped them focus their energy on their artwork, while other

participants developed emotional connections with their artworks.

Vignette 17**.** Olympia shared how her art work always had an emotional

connection with her life. In interview series #3 she shared the following.

When I was in 7th grade I did this watercolor painting of a sunset and it
was my first real experience with art, the first emotional connection with art. While I am
painting my mind goes blank and I can only think about the painting and I end up yelling
at people that interrupt me. But I can be happy also and radiate the happiness.

The challenge of presenting descriptions as the primary method of
revealing the meaning of the phenomenon required dissection of the textural and
structural qualities of the intentional experience. During the interview process, Olympia
was able to recall previous memories of art making that produced a heightened awareness
of her emotional state. Memory aided significantly in how participants communicated
their creative experiences and also provided some light on the flow state. The
semistructured interviews provided participants with the ability to go back and forth from
present to past creative experiences, allowing them to fully describe their knowledge of
the phenomenon. Part of this process required all aspects of the phenomenon to be
examined to reach a level of fulfillment or saturation. Establishing three semistructured
interviews as the method to collect data aided in the structural organization, which helped
provide a true description of the phenomenon of creativity and its connection to the flow
state. The phenomenological reduction method helped hold together the textural qualities,
such as the thoughts, feelings, and memories of the participants. It revealed the "what" of
the experience and then led to the "how" of the experience. Reflection was at the heart of
this process.

However, the interconnected aspect of texture and structure, within

phenomenological reduction, does not preclude the necessity of focusing on alternative

meanings of the descriptions. Moustakas (1994) through analyzing Descartes (1977)

understanding of phenomenological research stated, "as I come to know this thing before

me, I also come to know myself as the being who intuits, reflects, judges, and

understands" (p. 32). This way of knowing brings about Epoche.

Epoche brings forth a new way of looking at the phenomenon and is a key

aspect to the phenomenological method. Preconceived understandings are set aside and

new vantage points are revealed to give fresh and new ideas about the phenomenon.

Through the process of reduction each experience was considered a new consciousness

grasping the textural and structural aspects of the experience as seen in the selected

vignettes and revealed in the emergent themes. Each interview within the series provided

a new level of awareness and reflection on creativity. Specifically the second interview of

the series, the Think Aloud, provided a very different level of understanding. The Think

Aloud was essential for becoming part of the creative experience with the participants.

Becoming part of their world while they described and elaborated on creativity built a

level of trust. This trust allowed the participants to more fully share their understanding

of creativity through a very personal perspective. Deciding on including a Think Aloud

was instrumental in establishing this comfort level with the participants.

During the Think Aloud, participants were actively engaged in the creative

process and were eager to share through conversation. Schön (1983) perfected this

technique specifically to address work-place and psychotherapeutic needs. As a reflective

practitioner in the field of education, Schön stated, "in the half hour or so that he spends

with the student, he must construct an understanding of the situation as he finds it" (p. 129). It is a construction of professional reflection-in-action that leads the discussion, responding to the complexity of the participants' decision-making and cognitive actions. In this study it was the act of drawing or painting. Unlike, Schön's guidelines for a Think Aloud, the Think Aloud interview in this study was not centered on solving a problem or preparing interventions. Traditionally speaking, a Think Aloud is beneficial for leaders (supervisors, CEO's, principals, etc.) within a field to create strategies. Listening to their employees enables them to construct "a web of moves, discovered consequences, implications, appreciations, and further moves" (Schön p. 131). Instead, in this study it provided a view into the cognitive processing that the students engaged in while making art.

The Think Aloud provided an invitation into the creative and cognitive world of the participants. Each participant provided discussion on how and why they set up their artwork, whether through influences or emotive content. The interview provided a comprehensive discussion in the foundational principles of drawing and painting, specifically compositional arrangement. Understanding the effects of positive and negative space within a composition provided the participants with a repertoire of knowledge of artistic construction. Applying the knowledge of the discipline and being technically proficient allowed the participants to infuse the artwork with personal relevancy, establishing the metaphorical layering that was revealed in the final interview.

Milbrandt & Milbrandt (2011) stated, "the creative genius of the artist lies

in his or her ability to master materials and techniques important for satisfying social and cultural needs" (p. 10). Participants began with identifying elements, applied principles, and began an analysis stage by inferring and making judgments about their progress on a specific painting or drawing. Comparisons were made with previous learning and by the participants' desire to research and plan projects. Finally revealed through the Think Aloud interview series was the synthesis process. This provided the participants with the ability to examine their own thought processes. This reflective process initiated a level of self-confidence, which evolved into creative self-efficacy for many of the participants.

As students began to reflect on their own artwork in the third interview, they made connections between their previous work, the work of other artists, and proposed their own visual problems for future study. Milbrandt & Milbrandt (2011) promoted the notion that "subconscious maturation precedes creative production in every line of human endeavor" (p. 11). Creativity was embedded within self-directed activities designed around inquiry, expanding the range of emotion, embedded within the subconscious mind that sparked participants' creative ideas.

The construction of meaning became a strength in the third interview with participants. Reviewing the processes and their products from the Think Aloud opened up new ideas about representing personal experiences and the construction of meaning. The participants were living in the moment and reflecting creatively and critically on their own studio experiences.

Reflective Process

Isolating perceptual experiences of the interviews provided meaning

through the concepts within phenomenology and were embedded within the reflective

process. Moustakas (1994) argued that "meaning is at the heart of perceiving,

remembering, judging, feeling, and thinking" (p. 69). Examining, organizing, and

analyzing the interview transcripts provided a view into intentionality of the participant's

creative experiences and the realization of a flow state through the concepts of noema and

noesis. The noema, in this case was realized in interviews #1 and #3 because they were

based on the memory of what was being experienced. The noesis can be further defined

through interview #2, The Think Aloud, when the participants were experiencing the act

of creating and remembering and exploring the thinking during the active process.

Husserl (1931) differentiated intentionality through the noema, what appeared in

consciousness, and the noesis, the real object being perceived (p. 260).

What was intuitively known about the phenomenon and what was derived

as its essence created the synthesis representing the creative experience. Moustakas

described this as, "one comes to know not only the parts or aspects of a thinking but also

its unity or wholeness" (p. 70). Reflections of the interviews helped make possible a

richer exploration of intentionality through the structures of noema and noesis. It was

necessary to transcribe and review the transcripts after each interview series. This

procedural method enriched the following interviews and enabled the conversation to

continue.

The credibility, transferability, dependability, and confirmability of the

study were established by procedures guided by the research questions of the study. To secure credibility of the interview series, three students from my own Advanced Placement class were asked to review the interview questions and discussed any ambiguity in the wording of the questions. This review was important because the language used with adults tends to be slightly different from the language used for high school students. This review process allowed for each question to be interpreted through the high school student's perspective. No changes were need in the planned structure of the interview questions.

The interview questions, as seen in the Appendix, provided a consistent interview structure addressing the dependability and transferability of the interview series. The interviews and transcripts provided a unique and ever-changing context for the phenomenon of creativity within the Advanced Placement Art Studio classroom. These semistructured interview questions addressed both research questions by documenting students' perceptions and descriptions of creativity and revealed a flow state. Phenomenology allowed for student's to express their perceptions and full intentions of creating artwork, experiencing creativity, and the emergence of the flow state. Transferability was addressed through replicating the interview series, however, it was understood that the 'transfer' of the results would vary depending on differing contexts.

Establishing a focused and structured interview process helped organize the interview transcripts, field journal, and enabled the member-checking and peer review to act as an essential confirmability of the research study. Participants were asked to

review the field journal at the end of each interview to verify what was shared. Three educational colleagues who hold doctoral degrees in education reviewed the horizons and themes that emerged through the transcript reviews. All peer reviewers played the role of 'devil's advocate' to help clarify the emerging horizons and themes. This confirmability of the analyses provided greater legitimacy of the study's results. Each peer reviewer provided philosophical perspectives establishing a degree of confirmation or corroboration among scholars.

The researcher's position or reflexivity was evident in the field journal. The field journal included thoughts, reflections, and assumptions through the interview series. To help determine a level of trustworthiness of the findings self-reflection was practiced to provide a clear and honest representation of the interviews. Using the field journal to record observational and methodological notes established a way to reflect on inner thoughts about the interviews and the phenomenon. During the interview series self-reflection became a process that allowed for a new perspective on the phenomenon to emerge, building a bond between what was shared by the participants and understood by the researcher.

Triangulation of the data collected, the three interviews and the field journal, enabled a level of evidence of the quality of the research findings. It provided agreement rather than contradictions from one interview to another. Triangulation of the data also established a way to reflect and to examine data from the transcripts through an alignment of the research questions guiding this study. Staying focused, organized, and

reflective provided a critical framework for the trustworthiness and rigor of this research study.

Summary

A bigger picture emerged by analyzing and presenting vignettes of participants' perceptions of the concept of creativity within the theoretical foundation of the conceptual framework of flow theory. The study utilized three semistructured interviews with Advanced Placement Studio Art students. The second interview was a Think Aloud, which provided a rich declaration of teenagers' perception of their own creativity while actively engaging in the process of making art. The narrative descriptions provided support and emphasis on *The Person, Process* and *Place* that was identified in the literature review as key constructs of creativity. Intrinsic motivation and an openness to experience were emergent characteristics of the creative process, and thus revealed the flow state. These characteristics have supported answers to the research questions.

The flow state, described through a psychological realm, focused on the participant's ability to pay close attention to a given task bringing forth an optimal feeling of happiness or satisfaction. When tasks become optimal, on a psychological level, they brought about a higher level of intrinsic motivation, thus emerged as self-efficacy. Having experienced the flow state, the need to replicate that psychological state and its euphoric condition drove participants to chase the experience. Within a larger perspective, the flow state helped participants achieve a truly meaningful and purposeful studio art experience. It was through the rigor of educational programming within the

creative-cognitive domain that constructed this level of awareness, thus establishing the vitality of the school environment.

Lee (2009) described the importance of establishing an art environment and developing art lessons that enable students to think independently about their creative work. He also continued to describe the creative-cognitive domain in art education as consisting of playing with ideas, purposefully exploring the expressive potential of media, understanding and selecting the appropriate application of the art elements and principles of design, and the ability to become proficient with techniques. When the environment and pedagogy come together students are more likely to realize their creative potential. Hope's (2010) research also supported this finding by stating that students exposed to this level of instruction were engaged in self-reflection, which stimulated the creative and cognitive processes. The creative-cognitive domain drives intuition and memory.

The insights provided by the participants gave rise to intuition and memory. In phenomenological methods Moustakas (1994) stated that researcher's try to "describe how the phenomenon is experienced…turning one's attention to the conditions that precipitate the textural qualities, the feelings, sense experiences, and thoughts" (p. 78). It was within a synthesis of the noema and noesis where intuition and memory provided descriptions through constant reflection and provided evidence to support the guiding research questions.

The memories created a fullness or wholeness of the essence of the

creative experience. This wholeness was universal, however the intentionality of the participants were unique. The uniqueness came from an integration of the perceptual and cognitive, thus the creative-cognitive domain, that arrived at meaning-making in the participant's artistic products.

To address the research questions of this study, focusing on the student's voices to provide an understanding of creativity and the flow state, vignettes were provided for clarity of the four large themes that emerged. The themes of influences, mindset, self-efficacy, and emotions provided and supported clear descriptions of creativity with the evidence of a flow state.

Descriptions of the features of intentionality were hinted at in the interview series. Participating students turned to their own private world of creativity. Sokolowski (2008) described the publicness of the mind must "bring intentionality to the fore and to make it the center of philosophical reflection" (p. 11). It was the public sense of experiencing a phenomenon, not isolated from intentionality, that produced shared experiences in this study. Sokolowski stated that "phenomenology helps us reclaim a public sense of thinking, reasoning, and perception" (p. 12). Phenomenology provided a differentiated path toward intentionality, although creativity became a shared experience in this study, participants remembered events as opposed to actively living with the phenomenon in consciousness, thus producing variations on the concept of intentionality.

Memory helped arrange the world, being absent of the act of being creative and in the presence of the memory of the experience. In this case the creative experiences were presented within ideas and concepts that deviated slightly for each

participant. During interview series #1 and #3 both the participant and myself were outside of the object, the artistic creation, and with the description of the artworks helped bring fulfillment to the creativity and were able to intuit it.

The field journal provided a level of triangulation of the data. The field journal was organized through four categories, observational notes, theoretical notes, methodological notes and analytical memos. This organization secured a level of trustworthiness to the themes to support two criterions established for creative experiences: intrinsic motivation and an openness to experience. The vignettes along with analyses of the field journal provided full structural and textural descriptions that revealed the essence of creativity.

The next chapter will describe the procedure for interpreting the findings and describing limitations and implications of the study. Recommendations based on the strength of the findings will present revised art pedagogies to encourage creative behaviors as well as reflective practices as a catalyst for positive social change in art education.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this phenomenological research study was to describe high school art student's perceptions of the creative experience. It was also designed to determine whether or not these students' descriptions of their experiences would reveal a flow state. The study collected data using an interview structure consisted of three semistructured interviews along with a field journal. The second interview was conducted with students discussing their artwork as they were actively working in the studio environment. This interview was called the Think Aloud. Blending a traditional interview structure along with the Think Aloud technique supported identifying a connection between the creative and cognitive domains in art education.

The phenomenological approach was selected due to this study's emphasis on revealing the students' voices. I created audio recordings of the students' descriptions of their perceptions and used a field journal to help record the students' responses and also functioned as a form of reflection and triangulation. This interview structure was used to establish a rapport with the students. This rapport was unique for each participant. The interview structure facilitated the creation of a different type of discourse to take shape while keeping a balanced and focused discussion about creativity. The difference experienced was the ability of the participating students to fully describe their creative experience with art. Nine of the original fourteen participants completed all three semistructured interviews.

The interviews produced evidence that two crucial characteristics emerged

while these students were actively creating art. These identified characteristics were intrinsic motivation and an openness to experience. These two characteristics aid in the definition of creative self-efficacy. This classification or realm of knowledge is needed to blend the newly emerging literature on the creative-cognitive domain in art education. The study findings support Byrge & Hansen's (2009) proposed framework for pedagogical practices in art education by conceptualizing the study of creativity as a new discipline or domain. This framework was based on key patterns that emerged through examining how students formulated solutions to design problems; Byrge & Hansen (2009) termed this emerging behavior horizontal thinking (p. 239). The flow state emerged during the interview process while students were describing and discussing creativity.

During the interviews, students used phrases and words that were directly associated with the flow state, such as: in the flow; in the zone; zoned out; and in a different world. The participating students in this study clearly experienced a flow state while creating art. Three of the nine student participants articulated that they were in this state of consciousness and were aware when they were "in the zone". Compelling ideas emerged and all other worries and concerns disappeared while they were "in the zone". Students described their experiences and perceptions about creativity which helped form four themes through reduction of the data: influences, mindset, self-efficacy, and emotions. The field journal also provided a level of triangulation through the analyses of the following categories: observational notes, theoretical notes, methodological notes, and analytical memos.

This chapter provides a concise summary of the key findings and interpretations of the findings. It is divided into six sections: (a) summary and interpretation of findings, (b) limitations of the study, (c) recommendations for future research, (d) recommendations for art education, (e) implications for positive social change and, (f) conclusion.

Summary and Interpretation of Findings

I organized the interview transcripts for reduction into horizons and then themes. The use of short interview vignettes helped illustrate a connection between the phenomenon of creativity and the flow state while revealing student voices. Memory became the pathway toward intentionality. Interview #1 and #3 were based on the participants' reflections on their experiences with creativity in the Advanced Placement Studio art classroom. Interview #2 was called a Think Aloud and was conducted while the students were actively creating art. This structure, the Think Aloud, helped establish the cognitive support for the creative experience, thus defining and bringing to the foreground the creative-cognitive domain. When entering into a phenomenological research study, concepts of intentionality, noema, and noesis provided a solid foundation for how the interview structure revealed a wealth of insight into the students' creative experiences. Information from the interviews was clearly rooted in memory and reflection. The interpretations of the findings have been organized into five areas of discussion:

1.   memory,

2.	creative-cognitive domain,

3.	intrinsic motivation and an openness to experience,

4.	flow, and

5.	enjoyment and pleasure.

Memory

Embedded within the reflective process students sought to communicate

the characteristics of creativity through a synthesis of personal understanding. These

reflections included perception and memory, defined as the noematic. An understanding

of their own artistic ability and what happened during the creative experience was

supported through both the structural and textural conditions of the phenomenon.

Moustakas (1994) described "the understanding of meaningful concrete relations implicit

in the original descriptions of experience in the context of a particular situation is the

primary target of phenomenological research" (p.14). This study used original

descriptions, vignettes, to provide a view into the students' perceptions of their own

creativity. The phenomenological research method became the best choice and emerged

through the analysis of the peer-reviewed literature. It became evident through the

analyses of the data that the voices of the students demonstrated how creativity and the

flow state are connected. Focusing on the voices of the students had been a neglected area

in the current literature on creativity and flow. Phenomenology became the key method in

revealing students' perceptions.

The memory of the creative act defined intentionality, thus giving rise to

the noema and noesis. The memory is not the real object (noema) but is the interpretation of the creative act. The act of creating can be described as the noesis defining the real meaning of the work. This relationship produced intentionality and a heightened consciousness. What the creative experience was, in memory, constantly changed as new knowledge appeared. Csikszentmihalyi (1991) described, "all forms of flow depend on memory"(p. 121). Flow experiences become evident through reflection. Memory provided a structure to consciousness and produced a level of great enjoyment for the participants by allowing them to experience, once again, the creative act. Consciousness is an open system of mental processing. The results of this study helped support what Csikszentmihalyi argued when noting that "consciousness is infinitely expanding, there is no need to take its limitations into account" (p. 29). Through the use of memory, participants were challenged to focus their senses onto the creative experiences. These experiences, from memory, provided features of the consciousness that were real and imagined hence, blending the noema and noesis to produce the creative experience and revealed a flow state.

Students shared their unique experiences with creativity through memory and while actively engaged in creating artwork. This emergent subjective experience presented complex studio habits that focused on influences, mindset, self-efficacy, and emotions. One challenge embedded in this study was the blending of imagined (memory) and real experiences with creativity. This study's findings supported Moustakas' (1994) contention that, "the object that appears in consciousness mingles with the object in nature so that a meaning is created, and knowledge is extended" (p. 27). In this study, the

participants explored memory as a form of reflection to fully describe their experience with creativity. The conversations became rich with descriptive and metaphorical language, building on individualized experiences in the studio art classroom. The meaning of the phenomenon was blended with imagined and present experiences yielding a new vantage point for conscious awareness.

This new vantage point was well established in the literature review, which included five specific categories: (a) defining creativity, (b) flow theory, (c) cognitive structures, (d) creative self-efficacy, and (e) pedagogy. These categories supported the study through the emerging creative-cognitive domain in art education. The literature review provided definitions and then established a relationship between all five categories that opened new ways of thinking about how higher-level executive functions within the flow state, which provided the underlying neurological support for creativity.

Creative-Cognitive Domain

Creativity can be part of every discipline and can also be theorized to include a close connection with cognition. This study's findings helped support Harding (2010), Dawley (2011) and Sternberg's (1985) empirical research studies establishing relationships between creativity and cognition. Gardner (1985, 1999), Amabile (1996), and Eisner (2002) brought forth new information about creativity, specifically how it is realized for the teenage learner. The literature helped guide this study and has helped support a connection between creativity and a flow state. Keeping in mind the historical contexts, creativity and flow theory are joined and can be actualized through an individual's level of intrinsic motivation. Intrinsic motivation required both a level of

creativity and cognitive ability. Participants in this study demonstrated intrinsic motivation through self-directed study that included complex problems to solve, building on previous knowledge, and entered into a new way of understanding that revealed creativity. Connecting this study with Gardner's (1998) advanced the thought that intrinsic motivation supported creativity. Eisner (2002) was the first to define the creative-cognitive domain. His research along with this study's findings suggested that intrinsically motivated teenagers supported the definition of creative-cognitive domain through "self-initiated learning" (Eisner, p. 379). One of the most compelling research studies in the creative-cognitive domain evolved out of Amabile's (1996) componential theory. The componential theory clearly positioned creativity within a social and psychological realm with one share characteristic: intrinsic motivation.

Intrinsic Motivation and Openness to Experience

The role of intrinsic motivation and a willingness to take on complex problems, being called an openness to experience, became crucial keys to revealing creativity in this study. Participants shared perceptions about creativity through examples that highlighted their own problem-solving, established their own pathways, and a willingness to let the process take on a life of its own. Similar to Amabile's (1996) quantitative research, this research revealed that intrinsic motivation is the key to stimulating a creative state. The findings from this study not only confirmed the peer-reviewed literature, it also suggested possible applied theoretical shifts that could transform art pedagogy by addressing the creative-cognitive domain in art education.

The characteristic called openness to experience was first presented by

Prabhu, Sutton, & Sauser (2008). This study has taken their research a little further by presenting a link between an openness to experience, self-efficacy and perseverance. These characteristics of the experience have become foundational outcomes of the creative-cognitive domain. The introduction of this concept, openness to experience, built the creative-cognitive domain through challenging tasks that produced, from the participant's perspective, great enjoyment and pleasure. Revealed through the research findings was the connection between the concept of openness to experience and intrinsic motivation.

Flow

The participants shared the need to challenge themselves, to 'let mistakes become beautiful', and to enter into a different consciousness while creating art, the flow state. Flow has been organized into three common categories that can be summarized as absorption, enjoyment, and intrinsic motivation. In this study, intrinsic motivation crossed both domains, creativity and cognition.

Intrinsic motivation was directly related to students' perceived self-efficacy. Self-efficacy was revealed through the participants shared comments about their level of effort, persistence, and personalized challenge. In a study focusing on mathematical achievement of students, Bandura (1995) found, "perceived self-efficacy influenced their skill acquisition both directly and indirectly by heightening their persistence" (p. 204). Bandura's study examined the beliefs students had about their own ability to excel in mathematics, however, similarities were seen in the intrinsic motivation of the students participating in this study. This suggestive transfer is of some significance

as it indicates that self-efficacy is not limited to one academic discipline and extends

beyond belief systems into learning through a cognitive context. Bandura's research in

mathematics opened up particular comparisons for this study. He stated, "self-efficacy

measures are context-dependent" (p. 204). Self-efficacy affects intrinsic motivation in

students thereby resulting in an openness to experience that brings forth a flow state. This

study has contributed to art education by revealing the mechanisms associated with the

creative-cognitive domain crystalized in the conscious awareness of a flow state.

This information about flow theory and creativity was produced through a

qualitative research method, which sets it apart from the research of Martin & Jackson

(2008). Their research conducted with an Australian high school population, revealed that

there were different levels of the flow state with varying student groups. In the study a

quantitative flow instrument was used to indicate that most students enter the flow state,

but at varying degrees. Examining flow states through both qualitative and quantitative

perspectives helped confirm variables associated with the phenomenon, such as

absorption, enjoyment or pleasure, and motivation. The results from my study revealed

that when students created their own problems to solve they tended to spend more time

engaged with the problem thus becoming more absorbed, enjoying the process, and

staying motivated throughout their engagement with the creative activity. Based on

analysis of the interview transcripts, it became evident that the participants experienced a

flow state while working creatively, however great variation was also apparent.

The students who experienced extended flow states mentioned a spiritual

or other worldly connection with the creative process. This phenomenon was examined by Kenny (2008) as a level of creative self-efficacy. Kenny stated that extended periods of time in the flow state initiated a reflective stage that resulted in inspiration and intuitive flashes he called "spiritual integration" (p. 597). Similar to Kenny's description, Baer (2008) called this level of creative engagement an openness to experience. Focusing the mind on a desirable task resulted in a control of consciousness producing self-actualization. Comparing these descriptions of the creative experience and flow state helped structure this study's interpretation of the interview transcripts.

The flow state became a holistic experience for the participants, bringing forth optimal awareness of the task or goal at hand. The flow state allowed these participants to become immersed in the goal or activity at hand and helped produce a heightened sense of pleasure. Forster (2014) described this heightened sense of pleasure as an evolutionary and neurological process integrated solidly in cognition. Beauty and pleasure in the visual arts becomes a neuroaesthetic response that is sought after by practitioners of the arts. He stated that to experience pleasure through the act of creating or viewing art may serve "an adaptive purpose" in our neurological hard-wiring (p. 261). The flow state exists in both the conscious and unconscious mind; it is pleasurable and is where creativity becomes actualized.

Flow theory was the theoretical underpinning of the conceptual framework in this study. The interview structure helped establish a personal freedom with ideas and concepts, while recognizing the core meaning of the participant's creative experience. This intertwining of the participant's memory of the creative experience allowed them to

enter into a consciousness through the awareness of something other than the actual phenomenon. This process, entering a creative mindset, was described by the participants as 'not thinking'. In other words, consciousness has developed through neurological programming and the participants' 'not thinking' about creativity was a function of many sensations coming together at one time specifically, sense perception, memory, emotions, and intuition. This level of awareness, and through memory as a way of knowing creativity, provided a synthesis of the person, process, product, and place existing and appearing as a conscious experience. This awareness can be described as and shaped through the flow state. This zone produced and allowed for the appearance of new information, which impacted the creative conscious experience.

What became evident in this study were the dimensions of a flow state. Based on the research study conducted by Zaman, Anadarajan, & Dai (2010) a flow state has four dimensions: (a) control over interactions; (b) attention or focus; (c) curiosity and heightened arousal; and (d) intrinsic interest in the activity (p. 1011). These levels were pronounced in this study, specifically seen in the Think Aloud interview. Participants were able to communicate how creativity was actualized in a flow state through a direct level of motivation and personal involvement that ultimately provided the participants with an optimal and rewarding experience. This was an experience that was actively sought after by the participants.

Enjoyment and Pleasure

The experiences associated with the visual arts can be regarded as

instinctually pleasurable. Pleasure is derived "from mental functions of perceiving, organizing, and working-through artistic percepts" (Noy, 2013, p. 560). The phenomenon of pleasure can be understood through aesthetic reasoning. While the participants were working in the art studio, during the Think Aloud interview, they went through critical review while creating and communicated a sense of great satisfaction with their work. Similar to Noy's research, examining the phenomenon of pleasure, the participants in this study showed an instinctual and psychological process that brought forth great satisfaction. The experience of creating art produced a shift in what Noy called, "psychic levels" of an experience (p. 568). In this study the psychic levels were interpreted as a flow state. The results of this study revealed a connection between a flow state and creativity thereby suggesting more complex intrinsic properties that yielded gratification and pleasure. This new knowledge and the results of this study can initiate transformation in art education practices, which will be further discussed in the section on implications for positive social change.

Establishing personalized questions about creative practices enabled students to think critically through the creative process. This study provided some clear similarities with the research on dialogue and creativity. Examining Hope's (2010) research provided a clear link between teacher-student dialogues as a way to stimulate creative reflection. In this study, reflection allowed students to develop higher-order thinking skills through self-actualization of their own creativity, thus building creative self-efficacy. Building pathways toward understanding creativity was woven through the cognitive structures that produced a flow state. Realizing that the 'not thinking' really

translates into deeply thinking and become absorbed in the creative process, thereby these student artists were indeed thinking intensely in both imaginative and intuitive ways. This newly emerged information will allow art educators to understand and be able to engage in the concept of the creative-cognitive domain. This pedagogical shift will allow teachers and students to discuss creativity with greater depth and to glean great pleasure out of these experiences. The shared discussions will help organize the content of consciousness, forcing attention on the experience to elicit a heightened sense of pleasure. The emerging creative-cognitive domain in art education necessitates the need to reveal the structures that form the creative experience, specifically as they relate to flow theory.

As seen in this study's analysis of the interview transcripts, an optimal state of mind constructed a connection between previous memory, and new knowledge by providing pathways toward self-motivation, self-regulation, and creative self-efficacy. Schunk and Zimmerman (2008) posited that sources of academic success contribute greatly to the conscious awareness and construction of self-efficacy. Zimmerman and Bandura (1994) stated that "self-efficacy for self-regulated learning is related to motivation and achievement in academic disciplines" (p. 121). Through analysis the participants in this study had a sense of self, which emerged stronger after they had experienced a flow state. This realization encouraged students to stay motivated and engaged them through their personalized creative experience and resulted in academic achievement in the advanced placement studio art course.

Connecting the creative experience with academic achievement in the

advanced placement studio art course helped students convey a higher level of competence in their comments about artistic creations. This was an unexpected finding based on current research in student's perceptions of their artistic achievements. Both male and female students communicated highly personalized experiences with creativity and the flow state, however, only one male student completed all three interviews. The majority of the participants were female. To address this concern and to address the use of memory as a form of communicating the phenomenon, the next section will address limitations to the study.

Limitations of the Study

A limitation to the study included the ratio between male and female participants. Using an advanced placement studio art class was particularly useful in revealing a flow state while creating art, however only one male student completed all three interviews. Both the females and males in this advanced placement studio art class had at least two years of high school art instruction and demonstrated some expertise with materials, processes, and techniques. Students in the course were highly motivated. The female students seemed to be more willing to share their experiences with creativity. The participating students seemed truthful about their experiences and provided complete descriptions, although the one male participant did have the shortest interviews as compared to the female participants.

Eight male students were part of the larger Advanced Placement Studio

Art course. Originally four males volunteered to be part of the study. Only one male

student continued in the study. During the second visit to the high school the remaining

three male students were invited to begin the interviews again. Two of the male students

asked for extra credit, which could not be negotiated and one other male student

discussed the conflict with his sports schedule. As a result, only one male participant was

part of the study. Even though the flow state was revealed affirmatively with this one

male in addition to the female students, it would have been beneficial to hear how other

males experienced creativity in the visual arts.

Alternative approaches to recruitment of male participants might involve

alternative interview times, such as weekend interviews. Although this might have helped

with some of the conflicts with sports training, it would possibly interfere with matches

or games on the weekends. Additional credit was never an option for this study, so those

males looking for extra credit could not have obtained their desired outcome for

participation. This does suggest a potential problem in recruiting male students to

participate in discussions about their educational experiences in the visual arts.

The interview structure could potentially be viewed as a limiting factor in

this study. Some of the participating students dropped out after the second, Think Aloud,

interview. When questioned about participating in the last, third interview, these students

stated they had shared all they knew about creativity. Out of the original 14 participating

students only nine completed all three interviews. This might not be considered a

limitation, however one alternative solution to address this problem might have been to

move the Think Aloud to the final, third interview, although this shift in interviews

structure would have eliminated some of the depth of description about creativity that emerged in the third interview with the remaining participants.

The remaining nine participating students exhibited a level of self-awareness through sharing and discussing their experiences with creativity. These students formed closer connections with the interview process and wanted to articulate the nuances experienced while creating art and entering a flow state. Those who continued through into the third interview, member checking became an exciting process for them. This process aiding in building self-efficacy in students while strengthening the results of the findings.

Surprises

Throughout the interview process I became aware of the importance of memory in describing the phenomenon of creativity. At first, I began to realize that memory might become a limitation to this study because it was a recalled experience, not the actual act of creating. After the interviews came to a close, I began to reflect on how memory became an essential skill for realizing creativity. Memory is a mental skill and without the ability to call forth memory, other mental processes would not be possible. Memory also provided the participants with a small spark of enthusiasm or pleasure in recalling the act of creating. This newly acquired realization, the importance of memory, transcended my original thoughts about being a limiting factor and became a way to find meaning in the act of creating art thus bringing forth order and awareness to the participants' consciousness.

Spending time interviewing the students resulted in a closeness with some

of the participants. Three students wanted to continue sharing their creative experiences after the conclusion of the interview series. Additional time was spent with these participants, however, this was not included in the data collection or analyses. These requests were not unexpected as a result of the intimacy and personal bonds established in the interviews. When students are sharing memories about their creative work they are also sharing a very private aspect of their personal world.

Participants were eager to share and through this sharing several students felt disappointed when the interview series came to a close. The only male participant communicated his desire to continue communication with the sharing of his business card. Three of the female students also shared business cards they had designed that included personal social networking sites and encouraged continued correspondence.

Engaging discussions occurred with the participants after the Think Aloud. These discussions helped pull together evidence to support ideas about the creative experience. For many of the students the Think Aloud was a reflection-in-action discussion that revealed surprises for the students as they described their creative act. This self-reflection became a catalyst for the participant's intrinsic motivation, or creative self-efficacy.

Trustworthiness

To provide for a level of trustworthiness in this phenomenological research study member checking and peer review were essential components. After each interview, participants were asked to review the field journal for accuracy. Students provided reviews and gave affirmation.

The peer review involved three qualified colleagues holding doctoral degrees in education. The colleagues were asked to review the horizons and themes to look for reasonable classifications. The themes appeared logical based on the colleagues' feedback, which then initiated the analyses to be fully conducted.

Reflection became a significant process for creating and forming the findings of this research study. The ability to communicate the participants' experiences with creativity needed to be viewed in their singularity (uniqueness) and described within their totality. The uniqueness of each student's creative experience was rewarding in this study. After working closely with high school teenagers for the past twenty-four years, building strong working relationships required a depth of knowledge and openness to establish engaging discourse. Only having a short relationship with these students still revealed that level of depth in the conversations about creativity. It was a process that united and combined what is known in order to form a synthesis of the creative process as these students experienced it in the visual arts.

The descriptive nature of the study was presented and derived from the experiences of the participants giving rise to validity. Living with the transcripts, horizons, and themes required repeated reviews with the phenomenon as a unified whole and thus produced a level of confirmation of the methods and what comprised individualized experiences with creativity. New ideas emerged from this research study that suggested potential reforms to move art education into the 21st - century.

Recommendations for Future Research

Based on this study, future research in the field of art education and creativity could focus on investigating a link between creativity as a way to reveal a flow state. Among the possible research questions that follow from this study include: What would be the best way to organize a studio classroom to promote inquiry-based discussions? How often should these discussions occur? What is the impact of the development of flow states in the visual arts over the long term? Which curricular and instructional elements are most important in fostering flow states in art education? These are further research questions that could be addressed in various methodological ways, such as discussion group activities outside of the traditional critique driven discussions and the student sharing of self-reflections on personal artistic growth.

Providing an alternative framework that structures the methods of art education to promote an openness to experience and to reinforce intrinsic motivation will change the dynamics of a studio classroom atmosphere. The studio classroom can be designed to allow students to grapple with complex problems within small discussion groups and by allowing students to present personal identities and global issues into self-reflection narratives. These strategies all present potential positive social change initiatives. This phenomenological research study helped provide some evidence of the importance of structuring the studio classroom as an inquiry-based environment. Additional research studies could include investigating small focus groups through discussions based on the level of inquiry that was presented by the students in the art

studio classroom. This would be a practical strategy to further investigate the awareness of a flow state and the phenomenon of creativity.

The questions that focused this research study examined and provided evidence of the connection between creativity and the flow state. The magnitude and robustness revealed in the series of vignettes, descriptions, memories, and discoveries guided a new way of understanding high school students' creative experiences. These findings clarified that the participants' ability to utilize memory and intuition helped provide more complex descriptions about the nature of creativity and life.

The richness of the transcripts revealed connections the high school students made through discussions about possibilities, personal philosophies, and life. These emergent ideas were similar to a learning model defined as postformal thinking developed by Wu & Wen-Bin (2008). Their research broke down the thinking into three formal thinking stages seen in late adolescent learners that stimulated creativity. The research study conducted helped strengthen the concept of this model through revealing how late adolescent learners perceive their own creativity. This type of thinking, postformal thinking, is closely related to the creative-cognitive domain. Through analysis of the transcripts, participants were able to demonstrate and communicate an ability to tolerate ambiguity, form their own questions, and actively integrate new knowledge about the issues and problems that have meaning in their own lives, thus giving form to the creative-cognitive domain in art education. The challenge facing art education professionals is two-fold: designing curriculum to foster creativity in the studio

classroom, and engaging learners in self-reflective activities that strengthen the creative-cognitive processes.

In this study, I needed to learn how students perceived their own creativity and whether or not a flow state was present in their descriptions. It was clearly evident that students entered a flow state when fully engaged with their artistic activity. The flow state allowed students to explore their own ideas in greater detail and enabled them to provide deeper meaning to their artwork. Helping students make sense of their learning required a pedagogy structured around processes that enable students "to make sense of their lived life, to make connections, to construct meanings" (Roberts, 2010, p. 250).

Further investigation into reevaluating creativity within the flow state could lead to studies in cognition, hence the creative-cognitive domain. There is merit to the idea of embracing students' perspectives on their own creative encounters, giving life and value to the phenomenon, could help establish an awareness through discussion that leads to self-efficacy and with hopes to build creative self-efficacy. Phenomenology is a perfect method to help build this awareness and establish it as a construct for curricular reframing in art education practices.

Implications for Art Education Practices

The idea of creativity emerging within a flow state can become the catalyst for conceptualizing pedagogically the teacher's influence on supporting and encouraging teenagers to further discover their own ideas. Roberts (2010) stated teachers are "wrestling with the balance of method and meaning, process and content" (p. 243)

when constructing curricula. The greatest need in art education is to establish an environment that encourages "possibilities instead of prescriptions" (Roberts, p. 243). Moving beyond just doing to becoming part of the creative experience, seeking the essence of the experience provides students with the motivation and the willingness to find deeper meaning in life. This new direction in educational reform is what Roberts called "purpose-driven inquiry" (p. 249). This is at the heart of creative self-efficacy. When students are able to fully embrace their own learning by proposing questions of personal, cultural, and societal importance they begin to see how creativity crosses over into other disciplines and becomes a way of life. Engaging in the discovery of the flow state is the first significant step for positive social change in art education.

All students who participated in this research study experienced a flow state while creating art. Not all students understood this conscious state, but articulated a new mindset associated with phrases like, "in the zone", "zoned out", and "lost in the moment". Providing teenage students with the ability to fully understand their own potential creative experience and thus the visual world provided them with ownership of their learning. Students then can become active practitioners in their own creative experiences with the hopes that cross-disciplinary adaptations will surface. This is the ultimate goal of comprehensive instruction in secondary education.

Understanding how creativity emerged enhanced student's self-esteem, which then developed into creative self-efficacy. My research study is one step in the direction of positive social change by providing an awareness of the expressive and personal nature of high school students' creativity. Creativity can be viewed as a form of

therapy, but is being conceptualized as a pathway toward leadership in this study. Engaging fully in the power of the visual arts and the emerging flow state provided teenagers with a way to ignite a passion, mobilize their ideas, and inspire others to find this optimal level of happiness. Guiding the teenagers into a realm of great personal power, the flow state, was a key element in positive social change. It is through the guidance of the art educators that will actively engage the youth of tomorrow to inspire change within their communities that are driven out of creativity.

The most logical and practical direction for continued research in the emergence of creativity would be to redesign the art education curriculum to focus on reflection-in-action as an assessment practice that would lead toward students' ability to take ownership of their own learning thus challenging themselves to explore new ways of visual expression. Adjusting methods to meet the needs of the individualized learner helped to differentiate experiences and validated the ideas and processes explored by the teenagers. Building a structure that allowed for students to discuss their experiences with creativity was the natural beginning point and should be embedded within the sequence of the art curriculum.

Implications for Positive Social Change

The visual arts have always been connected to positive social change by stoking activism or raising awareness of issues, inequalities, or injustices. Art has been there to spread the message through the society to help design what became important to

the community and thus producing the culture. The power of art is universal. It is used to transform lives and bring forth awareness of our world.

Creativity is linked with emotion. The awareness of this connection allowed these participating students to feel passionately about their own role in the world and helped them transcend oppressive influences. When students were able to have an emotional outlet, such as the visual arts, their energies were united to form strong communities that established purpose-driven inquiry. Reflecting on the transcripts and the totality of the phenomenological method used in this study revealed a deep connection between creativity and a flow state. Students who are fully engaged in their learning were more likely to move into a flow state. This surprised many of the students in the study, but with three specific students it became a spiritual realization associated with their creative art making. Yob (2011) attributed the spiritual realization to moments of deep feeling, suggesting that experiences can trigger a creative consciousness going beyond conscious comprehension into existential reality. Moving toward spiritual realization can be achieved in art education through practices that involved self-discovery and those that allowed students to reflect on their inner feelings as they create art.

Creativity can be a skill that is developed through problem-solving, decision making, discoveries, and engaging in meaningful and expressive artistic work. These attributes associated with creativity were communicated clearly by the participants as they shared their unique experiences with creativity. Applying what had been discovered about creativity and the flow state helped establish a connection between school and life. Finding and learning how to stay in an optimal conscious state of mind

provided for greater learning and sharing and thus contributed to a healthy and productive educational community. These participating students were engaged in their learning, established their own problems for investigation, placed an emphasis on mindful application of foundational elements and principles of the visual arts, as well as projected future successes as they designed their pathways toward creativity.

The methodological implications for embracing creativity and realizing that a flow state can be part of the experience opened up instructional opportunities that encouraged and rewarded freedom of ideas and divergence rather than convergence of goals and approaches. Building a curriculum that provided for multiple pathways for exploration established the creative thinking process. Students that embraced their own ideas and took them further started to experience a flow state. The process of thinking creatively and entering a flow state was crucial to application in a product centered educational system. It was clear from this study that when students fully engaged and took on responsibility for their own thinking, they produced creative results in their artworks.

Creative self-efficacy defined when students understood their own potential and began experimenting with various ideas and solutions to try new options that are the result of imagination rather than imitation. Providing a classroom environment that embraced unique solutions can open up new ways to change student's habits when they are working. Learning how to think creatively began a warm-up activity that initiated students on a journey of self-discovery.

When educators actively engaged in the creative thinking process with

students, through a Think-Aloud technique, students became aware of their own creative

thinking processes in hopes to reveal a flow state. This was the beginning of the creative-

cognitive domain. By conceptualizing the Think-Aloud interview technique as an art

pedagogical strategy suggested that it could transcend the divide between theory and

practice and become a method to help provide teachers with insightful discussions

techniques.

Students began to design their own pathways toward creativity through

shared processes and discourse about the methods. Repeating the Think Aloud process

allowed students to go beyond pure imitation and validated their own ideas. A great

example of this type of thinking was revealed in Daisy's second interview when she

stated that she never fully understood when the teacher said to be creative. Early in her

high school art classes, skill building was the focus, it was only until she entered the

Advanced Placement course that she began to understand the freedom of creativity.

When she was given freedom with her own ideas and processes, she entered a flow state

while pursuing her own vision. This realization might happen at an early stage in

teenagers' art experiences, however having the necessary skills expedites the creative

process.

Building the art curriculum to allow students to consider answering

questions with more questions leads to experimentation toward creativity and the flow

state. Students became empowered through their own ability to navigate this nebulous

terrain. The best answers come from their own discoveries, thus bringing forth their own

answers to the questions and opening the conscious state of flow. This is how knowledge is constructed in the visual arts.

Conclusion

Experiencing creativity and entering a flow state provided students with an optimal feeling of great satisfaction. The experience became synonymous to a runner's high. When jogging or dancing for long periods of time a mood-altering feeling of great happiness transcends the pain. The flow state became this mood-altering feeling or zone. It was hypothesized that endorphins were released in the brain. Endorphins are associated with mood changes and the more experiences with running, the greater the effect. The flow state is synonymous with the runner's high. When students stayed immersed in a project of their own design, they began to recognize the flow state and become aware of creative solutions. When students have experienced the flow state, they tended to want to recreate that feeling or psychological state of mind. It was when the mind focused on the task at hand that allowed for creativity to flourish and aided in the pursuit for more meaningful explorations. Activities and tasks formed purpose-driven inquiry.

More educational emphasis needed to be placed on the role of creativity across the disciplines. Creativity was more than philosophical or psychological or even therapeutic, it structured the mind and redefined how knowledge is acquired. Designing curriculum to address experiences that develop creative solutions nurtured students' desire to engage more fully on the task at hand, with the hopes to enter a flow state while working. Providing opportunities for students to think independently promoted creative

self-efficacy. Learning will become immensely rewarding, which perpetuates further

engagement with complex problems and experiences with creativity.

Including more discourse practices within the art education classroom

provided for students to engage in reflection. Reflection about the process of creating art

will lead to the awareness of the flow state. When this awareness is actualized by the

students, a strong desire to reenter this conscious state will become prominent. This

reflective process becomes a transformational method in fostering creativity and

cognition within the art education curriculum. Studio-based learning that includes more

emphasis on responding to and learning through the students' perceptions of their own

creativity will secure life-long learning. This reflective process can help to capture central

aspects of the creative experience and build creative self-efficacy providing students with

the opportunity to apply what they have learned through the arts to establish meaning in

their lives.

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Appendix A

Questions for Interview #1

The following questions will be asked during the first interviews with the participants:

1) In your own words, please describe what it means to be creative.

2) How do you know when you are creative?

3) Can you describe what you are thinking while you are creating art?

4) When do you become aware of your creative experience? (classroom, at home, while you are in the act of creating, before you begin creating, etc.)

5) Can you tell me about your experience when actively creating art?

6) Do you have any special feelings or thoughts when you create art?

7) Would you describe how you mentally and intellectually prepare for the creative experience (making art)?

8) Would you be able to describe how you feel when you are making art?

9) What are you usually thinking about when you are creating art?

10) Do you ever have any emotional reactions to your own art work?

11) Could you describe your reactions to me?

12) Would you like to share any other information with me about your creative experience?

Appendix B

Questions for Interview #2, Think Aloud Technique

1) Please describe how you developed a theme for your concentration in the AP Studio Art course.

2) Could you describe some features of the artwork that you have worked out through different design approaches? For example, did you change your mind as your started working on this art piece?

3) How did this idea come into your mind? Was it based on observation, imagination, or a combination of both?

4) Would you be able to describe what type of critical designs you had to make as your went through creating this piece of art?

5) Do you feel at times that your work evolves out of a focused idea or does it seem to have a life of its own? How do you address any changes in your intended ideas for your art work?

6) How have you problem solved to achieve a certain level of technical proficiency that personally reflects your own effectiveness in achieving an intended goal or objective?

7) In this piece of art, how have you been innovative?

8) Would you like to share any additional thoughts about the making of this art pieces with me?

Appendix C

Questions for Interview #3

1) Think back to the Think Aloud interview, please describe how your remember the creative experience.

2) Is there an earlier memory of creating art that made you feel the same way?

3) Would you be able to describe what you were thinking during the art making experience in as much detail as possible?

4) How has this memory of the art making experience, from the Think Aloud interview, affected your thinking about creativity?

5) Have you experienced any new discoveries in the way you think about making a piece of art?

6) Has your experimentation and exploration in art making, from the Think Aloud, changed how you reflect on the process and overall experience of creating art?

7) Is there anything else you would like to share with me about your art making experience?