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Unlocking Creative Potential: Catholic Elementary School Principal Perceptions of Creativity

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UNLOCKING CREATIVE POTENTIAL: CATHOLIC ELEMENTARY SCHOOL PRINCIPAL PERCEPTIONS OF CREATIVITY

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Dissertation Abstract

Catholic Secondary School Principals' Perceptions of the Qualities of Effective Catholic Secondary School Teachers

Church documents and scholars affirm that traditional pedagogies are ineffective in preparing students for the demands of the 21st century (CCE, 2014, p. 13, Darling-Hammond, 2010; Hartley, 2003; Kampylis, 2010; Skiba, Tan, Sternberg & Grigorenko, 2010). A review of the literature revealed that a gap in research on the Catholic elementary school principal's understanding of and commitment to creativity exists. Even teachers who value creativity cannot fully support its development in the classroom without proper training. Continuing education coordinated by principals is one of the few opportunities for teachers to identify and confront their creativity misconceptions. The purpose of this study was to identify the beliefs that Catholic elementary school principals hold about creativity, creative students, instructional practices promoting creativity, and the degree of responsibility they feel for supporting their teachers' creativity training. Understanding the principal perception was selected for this study because their perspectives determine the resources invested in teacher professional development.

The study was a descriptive, mixed-methods, convergent parallel design. The researcher received permission from Dr. Kampylis to utilize and modify the Teachers' Conception of Creativity questionnaire to focus on principals instead of teachers. Twenty-nine principals participated in this study, representing sixty-two percent of the elementary principals in the diocese. The theoretical framework guiding this research

was the Investment Theory of Creativity (Sternberg & Lubart, 1995). This theory supposes that one must choose to be creative by selectively engaging six resources including: (a) intellectual skills, (b) knowledge skills, (c) thinking skills, (d) personality, (e) motivation, and (f) environment (Sternberg, 2006).

Overall findings of this study suggest that principals have a basic understanding of creativity in alignment with research, a willingness to support it, but need additional scaffolds at the diocesan level in order to accomplish this task. Principals acknowledge they feel responsible to support creativity development within their faculty, but do not identify the school environment as the most conducive place for creativity development. Principals need assistance in learning how to articulate and align rigorous curriculum with 21st Century skills including creativity development.

This dissertation, written under the direction of the candidate's dissertation committee and approved by the members of the committee, has been presented to and accepted by the Faculty of the School of Education in partial fulfillment of the requirements for the degree of Doctor of Education. The content and research methodologies presented in this work represent the work of the candidate alone.

Kellie Scherer	April 11, 2018
Candidate	Date

Dissertation Committee

Dr. Patricia Mitchell	April 11, 2018
Chairperson	
Dr. Michael Duffy	April 11, 2018
Dr. Nicola McClung	April 11, 2018
Dr. James Everitt	April 11, 2018

DEDICATION

"So we must remember that it is better to begin a great work than to finish a small one.... The work in the rough... may look ugly and yet be full of promise.... A piece of finished insignificance is no true success.... Our education is not meant to turn the children out small and finished, but seriously begun on a wide-basis. Therefore, they must leave us with some self-knowledge, some energy, some purpose...."
-Mother Janet Erskine Stuart, RSCJ

I dedicate this dissertation to my family. You supported me when the work was rough, and you helped me to see hidden promise.

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After having focused my dissertation journey on studying creativity, I cannot help but reflect on the many individuals in my life who helped me see the world in unexpectedly creative ways. Without them, my story would be incomplete.

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At the conclusion of this process, I remember the words of Mother Janet Erskin Stuart, stating that it is better to begin a great work than to finish a small one. While I have reached the end of this journey, I know I am just beginning a new chapter. Thank you all for being a part of this new beginning.

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CHAPTER I

THE RESEARCH PROBLEM

Statement of the Problem

Creativity is considered an essential life skill, which needs to be fostered by the education system (Craft, 1999; Skiba, Tan, Sternberg & Grigorenko, 2010; McWilliam & Haukka, 2008). Two forces that drive the growing emphasis on creativity in schools are students' individual fulfillment and their future success as participants in a knowledge-based economy (Craft, 2003). Creativity enhances life success, healthy psychological functioning, positive conflict resolution, and amplifies the construction of knowledge (Plucker & Beghetto, 2004; Plucker, Beghetto & Dow, 2004). It is a skill that allows students to grow and survive in the ever-evolving 21st century by fostering problem solving skills. The flexibility of creative individuals also allows them the ability to cope with the advances and changes that are a continual part of our current day-to-day lives (Hennessey & Amabile, 2010). However, a creativity crisis exists. Noted creativity expert, Robinson (2006), concludes that, "Many highly talented, brilliant, creative people think they're not because the thing they were good at at school wasn't valued, or was actually stigmatized."

Teachers not only act as role models for students but also spend a great deal of time with them, which are two reasons their role in the development of elementary school students' creativity has been investigated (Kampylis, Berki & Saariluoma, 2009). According the Second Vatican Council (1965a), teachers are indispensable contributors to a student's education. Teacher effectiveness is correlated with student learning and achievement (Danielson, 2006; Darling-Hammond, 2000). In fact, the effectiveness of

teachers directly impacts the success of Catholic schools (Congregation for Catholic Education [CCE], 1977, 1982; Cook, 2001a; Ozar & Weitzel-O'Neill, 2012; Second Vatican Council, 1965).

Many studies have explored the impact teachers hold on student creativity. Lack of attention to creativity in professional training has been identified as a major hindrance to the development of creativity in the classroom (Kampylis, Berki & Saariluoma 2009). Without continuing education, there are few opportunities for teachers to identify and confront the creativity misconceptions they may hold. The work of Crowley (2012) reiterates that, "Academic excellence is the hallmark of a Catholic education" (p. 67). This statement suggests there is a "need to redefine what excellence and rigor look like in the curriculum" (p. 68). Crowley also explains that Catholic schools must embrace collaboration in teaching and learning in the 21st century, addressing common learning outcomes and goals while integrating technology into education. He concludes that the goal of Catholic education must be, "to enhance the learning and formation of our students…We need to be excellent" (p.76).

A review of the literature reveals that despite the plethora of research on elementary school teacher impact upon the creativity of students, there exists a gap in the empirical research on the school principal's responsibility toward supporting teacher development of creativity in the classroom. It is well-established that the principal serves as the key agent for change within a school (Liontos, 1992; Sergiovanni, 1987). In fact, principal leadership is identified as one of the most significant factors affecting student achievement (Cotton, 2003; Leithwood & Jatzi, 2008; Marzano, Waters & McNutly, 2005; Penlington, Alison & Day, 2008).

This study aimed to address the void in research by investigating the beliefs Catholic elementary school principals in a Northern California diocese have toward creativity in the elementary classroom. A better understanding of principals' beliefs about the qualities of creative teachers as well as teaching strategies and classroom environments that foster creativity in students could provide valuable insights into how the diocese can better prepare principals to provide ongoing professional support to their teachers.

Purpose of the Study

The purpose of this study was to identify the beliefs that Catholic elementary school principals in a Northern California diocese hold about creativity, creative students, instructional practices that promote the growth of student creativity, and the degree of responsibility they feel for supporting their teachers' creativity training. Understanding the principal perception was selected for this study because their perspectives determine the resources invested in developing and supporting faculty through post-graduate school professional development opportunities. Specifically, this study sought to describe: (a) principals' beliefs and implicit theories about creativity as viewed through Sternberg and Lubart's (1995) six resources of the creative person (b) principals' beliefs about the characteristics of creative students, (c) the classroom practices principals identify as promoting creativity in the classroom, and (d) the degree of responsibility principals believe they hold in supporting the development of creative practices at their school through ongoing creativity training at the teacher level.

Background and Need for Study

Fostering creative thinking in schools is a key focus for a number of education systems around the world (Kampylis, 2010). In fact, creative thinking is regarded as an essential commodity of human capital (Florida, 2002; Pink, 2005), as well as a source of many social and emotional well-being benefits (Skiba, Tan, Sternberg & Grigorenko, 2010). Yet, in the face of the expressed need for increased creativity, Kyung Hee Kim (2011) at the College of William & Mary, found that creativity scores are decreasing. She analyzed the Torrance Creativity Test scores of nearly 300,000 children and adults and found that while scores had been steadily rising, a sharp decline in scores began in 1990. Her study found this decline in scores of children in kindergarten through sixth grade to be the most serious (Kim, 2011).

Educational strategies for developing creativity have failed to keep pace with advancements in the understanding of creativity (Plucker et al., 2004). Narrow standards of accountability for teachers and schools diminish the value of creative approaches to learning and problem solving (Sternberg, 2006). The prominence of standardized assessment encourages teachers to promote student conformity (Kim, 2008). There exists a void between the perceived need for creativity in schools and the understanding of how to support Catholic elementary school teachers' ability to achieve this need.

Beghetto and Plucker (2006) suggest that an educator's conceptualization of creativity requires an examination and understanding of creativity. Educators with a clear understanding of the nature of creativity have been able to identify and lessen their own negative stereotypes and misconceptions about creativity allowing for integration of creativity in the classroom curriculum (Beghetto & Kaufman, 2010; Beghetto & Plucker,

2006). In the *Declaration on Christian Education*, the Second Vatican Council (1965) underscored the importance of the teacher in fulfilling the mission of Catholic schools and the special call of those educating in Catholic schools. The Council Fathers declared, "This vocation demands special qualities of mind and heart, very careful preparation, and continuing readiness to renew and to adapt" (¶5). They affirmed that Catholic school educators "[S]hould therefore be very carefully prepared so that both in secular and religious knowledge they are equipped with suitable qualifications and also with a pedagogical skill that is in keeping with the findings of the contemporary world" (¶8). School leadership has a direct impact on school culture through the training it provides to teachers highlighting the need to examine creativity through the lens of the Catholic elementary school principal (Andrews & Soder, 1987; Barnett & McCormick, 2004; Hallinger & Heck, 1996; Le Clear, 2005; Leithwood, Day, Sammons, Hopkins & Harris, 2006; Lucas, 2001; Lucas & Valentine, 2002; Miles, 2002; Waters, Marzano & McNulty, 2003).

Church documents stress the importance of the Catholic school teachers' personal and professional training and formation. The CCE (1982), in *Lay Catholics in Schools*, asserts that "the task of teacher goes well beyond transmission of knowledge.… Therefore, if adequate professional preparation is required in order to transmit knowledge, then adequate professional preparation is even more necessary in order to fulfill the role of a genuine teacher" (¶16). Vatican II (1965) urged and encouraged Catholic school educators to utilize the findings of social sciences to improve their craft of teaching.

Because the principal serves as the ultimate creator of school climate, understanding the principal's perspectives toward his or her responsibility in the act of fostering creativity in the elementary classroom is essential to investigate when examining the role of creativity at the elementary school level. Research on school leadership establishes that the principal is essential in both shaping a school's culture and leading reform (Peterson & Deal, 2002). Work coming from the National Conference of Catholic Bishops (NCCB) (1979) claimed that principals "establish norms and procedures of accountability and evaluation within the school, and in relation to the larger community" (¶ 215). The principal is necessary to set change into motion, to establish the culture of change and a learning organization, and to provide the support and energy to maintain the change over time until it becomes a way of life in the school. "Over time, the principal's leadership will shape the school, positively or negatively. Without high-quality leadership, high-quality schools cannot exist" (Valentine, Clark, Hackmann & Petzko, 2004, p. 112). The CCE (2014), in *Educating Today and Tomorrow: A Renewing Passion*, reiterated the importance of training and competence. It declared,

> The importance of schools'... educational tasks explains how crucial training is for teachers.... Professional competence is the necessary condition for openness to unleash its educational potential. A lot is being required of teachers and managers: they should have the ability to create, invent and manage learning environments that provide plentiful opportunities; they should be able to respect students' different intelligences and guide them towards significant and profound learning; they should be able to accompany their students towards lofty and challenging goals, cherish high expectations for them, involve and connect students to each other and the world. Teachers must be able to pursue different goals simultaneously and face problem situations that require a high level of professionalism and preparation. (¶7)

Few studies have explicitly addressed principals' beliefs about creativity in the elementary classroom (Diakidoy & Phtiaka, 2002; Kampylis, 2010). A gap in the research and literature on principals' perspectives toward teacher and classroom

creativity has formed a need for further research on how principals understand their role in the formation of student creative thinking (Diakidoy & Phtiaka, 2002; Kampylis, 2010; Kampylis, Berki & Saariluoma, 2009).

Theoretical Rationale

This study used Sternberg and Lubart's (1995) Investment Theory of Creativity as its theoretical rationale. This theory proposes that creative people are individuals willing to pursue ideas that are unknown but hold growth potential. A distinguishing factor of creative thinkers is persistence in the face of initial resistance to their ideas. According to Sternberg (2006), the Investment Theory springs from the bringing together of six resources that this study will use to examine creativity. These resources include: (a) intellectual skills, (b) knowledge skills, (c) thinking skills, (d) personality, (e) motivation, and (f) environment.

Intellectual Skills

Sternberg (1985) explains that there are three different intellectual skills. Each is individually important, however, the gestalt of them is especially important to note. Synthetic skills allow thinkers to see problems in new and different ways allowing them to escape the restrictions of more conventional thinking. Synthetic skills are sometimes identified in a creative person as flexibility and the ability to react to novel situations and stimuli productively. These skills consider the experiential aspect of intellectual skills and reflect how an individual connects the internal world to external reality (Georgsdottir & Getz, 2004). Analytic skills are those that allow an individual to decide which ideas should and should not be pursued through the utilization of problem solving abilities. Finally, practical-contextual skills are the foundation upon which a

person knows how to convince others of the value of his or her idea. The best creative thinkers are identified as individuals who recognized and are willing to spend time in up-front planning, relying on executive functioning abilities such as the ability to compare different stimuli before making a decision (Sternberg, 1981).

Knowledge Skills

The second of these resources is knowledge. Frensch and Sternberg (1989) find that while one needs to know enough information about a topic to engage in thinking about it, too much knowledge could cause a person to become stuck on his or her own perspectives. One possible explanation for this phenomena is that experts utilize their existing knowledge structure, and can struggle to reformulate their thinking when faced with the necessity to think creatively. Taggar (2002) notes that knowledge, general intellect, and task-specific knowledge facilitates creativity when held in the correct quantities.

Thinking Skills

The third resource is identified as holding different thinking styles. Sternberg (2006) describes thinking styles as preferred ways of using one's skills. He explains that they are "decisions about how to deploy the skills available to a person" (p. 89). A legislative thinking style, meaning a preference for thinking as well as a decision to think in new ways, is identified as being particularly important for creativity (Sternberg, 1997a). It is essential that an individual is able to think both globally and locally in order to become a creative thinker. According to the work of Karnes, McCoy, Zehrbach, Wollersheim, Clarizio, Costin, and Stanley (1961), teaching techniques for both

convergent and divergent thinking are considered critical for sparking creative thinking.

Personality

Personality is the fourth resource important to the formation of creativity. Sternberg (2006) finds that there are many personality traits attributed to creative functioning including "willingness to overcome obstacles, willingness to take sensible risks, willingness to tolerate ambiguity, and self-efficacy" (p. 89). Shalley, Zhou and Oldham (2004) identify openness to new experiences, independence of judgement, and self-confidence as some of the personality characteristics of a creative person. Creative ideas usually run in opposition to the status quo and are frequently rejected by society. "Immediate universal applause for an idea often indicated that it is not particularly creative" (Sternberg, 2006, p. 90). Creative thinkers must develop a personality that can tolerate both the uncertainty of an idea's acceptance as well as the desire to keep working toward that acceptance regardless of rejection.

Motivation

According to Amabile (1983), creative work occurs most often when people really loved what they were doing. She identifies that their focus is on the work rather than the promise of any extrinsic reward. Motivation is the fifth resource important to the formation of creativity. Sternberg (2006) explains that like the attributes of thinking, motivation is something inherent within each individual. One can decide to be or not be motivated by something. Task-oriented intrinsic motivation is essential to creativity, and thinkers who make an effort to form a positive relationship with their work are more likely to engage in creative thinking. Jung (2001) reiterates the importance of intrinsic

motivation in creative work. According to Shalley and Gilson (2004), innovativeness requires a certain amount of internal force to persevere despite the challenges faced by the creator.

Environment

The final resource related to creativity is the environment. Regardless of the internal resources a person holds, that person must also function within an environment. The environment can impact the development of creativity by either serving supportively or not. Innovativeness many times involves risks (Janssen, Van de Vliert & West, 2004). The psychosocial safety of an environment can influence an individual's willingness to take risks. It is important to note that some people may allow unfavorable forces in the environment to block their creative production while others may not (Sternberg, 2006).

Research Questions

This study investigated four questions. They are as follows:

1. What beliefs and implicit theories about creativity do Catholic Elementary principals hold?
2. What are Catholic Elementary principals' beliefs about the characteristics of creative students?
3. What classroom practices do Catholic Elementary principals identify as promoting creativity in the classroom?
4. To what degree do Catholic Elementary principals feel responsible for providing their teachers with ongoing creativity training at their school?

Delimitations and Limitations of the Study

The delimitations and limitations of the study are acknowledged in order to understand the constraints of the research. Creswell (2003) explains that delimitations confine the study, whereas limitations are viewed as possible weaknesses of the study.

Delimitations

Delimitations were used to narrow the scope of the study (Creswell, 2003). The framework of this study was within the context of private, urban Parish elementary schools in a Northern California diocese. For the purpose of this study, the perspectives of only Parish elementary school principals were sought. Only Parish elementary school principals were included because the resources available to independent schools vary greatly from those available to Parish schools. Only principals of K-8 or JK-8 elementary schools were included in this study as the focus of high school principals may be different than that of elementary. The decision to purposefully target Catholic elementary school principals was based on both personal research interests as well as a perceived gap in the research revealed in the subsequent literature review. The findings of this study are limited to similar Parish school education systems and populations. Parish school systems may differ in objectives and supports available from diocese to diocese, so it may be beyond the scope to generalize, depending on such contexts (Creswell, 2012; Diakidoy & Phtiaka, 2002).

Limitations

Peshkin (1991) describes that a researcher's personal bias can emerge when researching a topic of interest, and that the researcher must be responsible for monitoring one's subjectivity as to ensure "that [he or she] may avoid the trap of perceiving just what

[his/her] own untamed sentiments have sought out and served up as data" (p. 294). Being mindful of the researcher's work in the classroom with creativity as well as her role as principal within the diocese utilized for the study, the researcher understood being objective was necessary when conducting research. It was essential that the researcher ensured her subjectivity was not reflected in her understanding of the data. Another limitation for this study was the lack of data and research on creativity in the Catholic school context. For the purposes of this study, the researcher utilized research about creativity in all schools with Church documents to lay a foundation for further exploration.

Significance of the Study

A better understanding of principals' beliefs about the qualities of creative students as well as the qualities of classroom practices and environments that promote creativity provides valuable insight into their practice and facilitates both the planning and evaluation of teacher efforts to foster creativity (Diakidoy & Phtiaka, 2002; Kampylis, 2010; Plucker & Renzulli, 1999). Amabile's (1989) research includes a reminder that creativity in schools is more than simply promoting the creative arts or finding new ways to teach. This study supports a greater understanding of what is necessary to support creativity development program effectiveness. The data collected from this research informs and enhances long-term strategic planning for Catholic elementary schools for the 21st century. In addition to providing data to administrators in the superintendent's office, this research assists the entire Catholic community in the Northern California diocese to understand what efforts need to be celebrated and what issues need to be addressed with regard to the creativity development within their

schools. Additionally, it identifies potential opportunities within the diocese of study to recommend ongoing training principals can bring back to faculty and staff. Finally, understanding what perspectives principals have about the nature of creativity leads to understanding how to foster a school climate that is more conducive to the formation of creativity in the Catholic classroom.

The facilitation of creativity in the classroom ultimately depends on the teacher's ability to identify creative potential, to recognize creative outcomes and to encourage personal characteristics and cognitive processes that have been found to relate to creativity, and this process depends on the teacher's ability to structure the classroom in a way that renders it more conducive to creativity (Beghetto, 2010a; Beghetto & Kaufman, 2010; Diakidoy & Phtiaka, 2002; Kampylis, 2010; Kampylis et al., 2009). Diakidoy and Phtiaka (2002) note that when the objective is to promote creativity in educational settings, the extent to which training prepares teachers to successfully identify and facilitate creativity in the classroom is a key indicator of success. Because principals are responsible for the majority of post-teaching training at his or her school site, understanding principal perceptions of the nature of creativity and their role in supporting teacher ability to establish it in the classroom provides invaluable insight to the diocese in formulating principal training programs that will better equip principals to empower teachers' creativity.

The impact of teachers' perceptions is important in the framework of education (Kampylis et al., 2009; Kowalski, 1997). Teachers' beliefs may influence their choice of instructional methods and tasks as well as their perceptions and evaluations of learning outcomes (Diakidoy & Pthiaka, 2002). According to Runco and Johnson (1993),

teachers' intentional or unintentional perspectives can formulate the prototypes against which students' creative behavior and performance are judged. These perspectives may facilitate or inhibit students' creative behavior, because the ways in which teachers organize the classroom practices are identified as being primarily influenced by what they know (Beghetto 2007a; Kampylis et al., 2009). Principals are charged as the head of instruction at their site, so it is their responsibility to be able to identify and support the development of creativity in the classroom. Understanding what to look for in teachers empowers principals to make better hiring decisions.

This study is significant because it examined the topic of creativity through the lens of Catholic elementary school principals. Principals are the instructional, spiritual, and managerial leaders of a school (Ciriello, 1998). Cook and Durow (2008), find principals charged with the primary responsibility of supporting their school site's teacher effectiveness by providing ongoing professional development opportunities, supporting mentoring programs, and integrating the qualities of effective teaching in their hiring and evaluation practices. In fact, the NCCB (1979) asserts the importance of principals in fostering teachers' spiritual growth and, in turn, the Catholicity of the school.

This study offers Catholic elementary school principals a research-based understanding of how principals in a Northern California diocese perceive the nature of creativity and their role in supporting its development in the classroom. It also informs the diocesan leadership of its principals' perspectives toward the role of creativity in the Catholic Parish elementary school. Elementary principals who have developed a clear understanding of what creativity is have become necessary in order to effectively foster it in real classroom settings (Beghetto, 2010a; Kampylis, 2010). Understanding principals'

beliefs about creativity through the lens of the Investment Theory of Creativity provides valuable insights into their practice with respect to creativity and also provides the foundations for the improvement of professional preparation and in-service training (Diakidoy & Phtiaka, 2002). Policy makers, curriculum designers, educational authorities, and creativity researchers find situated knowledge and insights into teachers' experiences, implicit theories, and conceptions of creativity valuable (Kampylis, 2010). Most of all, Catholic Parish elementary school students may find improvements in the level of creativity-based instruction if these recommendations are utilized.

Definition of Terms

In order to clarify meaning, definitions of relevant terms in this study are included below. These listed definitions have been operationalized to inform the meanings referred to in the present study.

Creativity: The production of original, potentially workable, solutions to novel, ill-defined problems of relatively high complexity **(**Lubart, 2001**)**. Creativity in the classroom specifically relates to the process of having original ideas that hold value. For example, a student exhibiting creativity may have a new idea about how to use a classroom tool that is intended for the task at hand. That student would share this new idea with his or her classmates, convince them of the legitimacy of its use, and put the idea into practice.

Creative thinking: A type of higher order thinking that requires students to generate ideas, to elaborate and refine ideas, and to critically assess their ideas evaluating the effectiveness and appropriateness of their proposal (Andiliou & Murphy, 2010, p. 217). Creative thinking in the classroom is not merely having original ideas, but also includes

the process of refining, testing, and focusing upon those ideas to improve their ability to solve the problem or issue at hand. Creative thinking includes judging critically whether both the work in process is moving toward the solution and whether the process is worthwhile.

Implicit Theories: A latent but existing theory, including beliefs, values, and biases, that an individual has developed and uses in identifying, describing, and evaluating creativity, both in themselves and in others, and that governs expectations and guides certain behaviors (Kampylis, 2010, p. 50; Kercz, 1992, Runco & Bahelda, 1986, Sternberg, 1985).

Misconception: Inaccurate or misleading common beliefs about creativity and creative thinking that can impact instructional decisions teachers make.

Teacher: A full-time regular education JK-8 classroom instructor teaching in a Parish school within a Northern California diocese.

Principal: A full-time principal of a JK-8 or K-8 Parish elementary school within a Northern California diocese.

Innovation: Miron, Erez, and Naveh (2004) define innovation as a successful implementation of creativity that produces an impact. Anderson, De Dreu, Nijstad, (2004) maintain that viewing innovativeness as merely an outcome caused by variables is incomplete. For the purposes of this study, innovation and creativity are used interchangeably. Unlike industry, the desired products, student learning, are not always tangible. It is for this reason that both terms will be used interchangeably to reference thinking that fulfills Sternberg and Lubart's definition of creativity as novel and appropriate work.

Metacognition: An awareness of one's thinking and the ability to manage one's own thinking process (Bransford, Brown, Cocking, 2000).

School Culture: The "underground stream of norms, values, beliefs, traditions, and rituals that has built up over time as people work together, solve problems, and confront challenges" (Peterson and Deal, 1998, p. 28). For the purposes of this study, school culture refers to the attitudes and beliefs toward creativity and innovation that exist at a school site.

NCCB and USCCB: The National Conference of Catholic Bishops (NCCB) and the United States Catholic Conference (USCC) were both formed in 1966. NCCB originally operated through committees of bishops focusing on Church affairs in the United States. The USCC addressed issues of the Church within society and included clergy and lay persons in addition to bishops. On July 1, 2001 the NCCB and the USCC were combined to form the United States Conference of Catholic Bishops (USCCB). All three terms are used interchangeably in this study to refer to the same organizations.

Summary

The need to understand how principals within a Northern California diocese perceive the nature of creativity and their role in supporting its development in the classroom was articulated in this chapter. The need for this study was premised upon the importance principals play as head of instruction at their school sites. Teachers' intentional or unintentional perspectives can formulate prototypes against which students' creative behavior and performance are judged. Principals hold the sole responsibility to be able to identify and support the development of creativity in the classroom through their hiring decisions and ongoing professional development choices for

teachers. Understanding what to look for in teachers empowers principals to make better hiring decisions. Understanding principals' beliefs about creativity also provides valuable insights into their practice with respect to creativity, ultimately providing the foundations for the improvement of professional preparation and in-service training at the diocesan level. It was these reasons that set the foundation for this study aiming to survey elementary school principals in a Northern California diocese.

This chapter highlighted the purpose of the study, the research questions that this study sought to answer, and the conceptual framework that guided this research. According to Sternberg (2006), the Investment Theory of Creativity includes six distinct creativity resources that individuals can choose to engage or not including: (a) intellectual skills, (b) knowledge skills, (c) thinking skills, (d) personality, (e) motivation, and (f) environment. Creativity includes the choice to use or not use those resources in the process of producing original, potentially workable, solutions to novel, ill-defined problems of relatively high complexity. The educational significance of this study was presented throughout Chapter One in order to establish the need for such a study. Other areas covered in this first chapter included the limitations of the study and the definition of key terms that were used throughout the study.

The Literature Review in Chapter Two begins with a focus on the nature of creativity, the need for creativity in 21st century education, and barriers to creativity in the classroom. The chapter next reviews research on ecclesial writings concerning the role of creativity in the Catholic school. Due to the lack of research on creativity in Catholic school, research on creativity in all schools is interwoven to make Church documents relevant to the study. The Literature Review next examines the role of principal as

primary agent of change for the promotion of creativity including an exploration of the 21st Century principal, cultural leadership, and the principal's role in forming school culture. Chapter Two concludes with an analysis of the six resources of creativity as developed through Sternberg and Lubart's (1995) Investment Theory of Creativity.

Chapter Three details the methodology used in learning about principal perceptions toward creativity in a Northern California diocese. The methodology chapter explains the research setting as well as the research population and sample. It also includes details about the instrumentation as well as the data collection and analysis process. It concludes with a discussion about ethical considerations as well as information about the researcher's background.

Chapter Four presents the results of this study. It begins with a review of participant demographics followed by a review of the data analysis for both quantitative and qualitative data. The chapter concludes with the findings for each research question.

Chapter Five is the conclusion of this study beginning first with a discussion of each research question. The chapter presents conclusions drawn for each research question leading into recommendations for both practice and further research. The chapter ends with concluding remarks from the researcher relating the conclusions from this study and her practice as a Catholic Elementary principal.

CHAPTER II

REVIEW OF LITERATURE

Restatement of the Problem

The world in the 21st century is changing more rapidly than in any previous generation (Cropley, 2001; Kaufman & Sternberg, 2010; Florida, 2002; Kampylis, 2010). This constant change necessitates creativity to be considered in schools (Craft, 1999). Creativity is considered to be at a historic premium because those who possess creative thinking are able to solve a range of social, political, and economic problems (Burnard & White, 2008; Kaufman & Sternberg, 2010; Kampylis, 2010). The rapidly changing requirements of the 21st century have put special emphasis on the need for creative thinking, and this emphasis has brought increased attention to the ineffectiveness of traditional pedagogies in preparing students for the demands of the current century (Darling-Hammond, 2010; Hartley, 2003; Kampylis, 2010; Skiba, Tan, Sternberg, Grigorenko, 2010). New pedagogies and education are needed in order to allow students to "...learn how to learn, create, and invent the new world they are entering" (Darling-Hammond, 2010, p. 3). This means that Catholic elementary schools need to better prepare their students for a world dependent upon creativity.

Teachers are influential in developing creative thinking and learning in the classroom, however teachers may believe they are fostering creativity when they are actually suppressing it (Beghetto, 2005; Skiba et al., 2010). Prior research indicates that teachers' perceptions of creativity and creative behaviors often run counter to the theories that guide creativity research (Dawson, Andrea, Affinito & Westby, 1999; Skiba et al., 2010; Westby & Dawson, 1995). Examples include teacher perception of creative

products as novel, but not necessarily appropriate, which is a belief that runs contrary to researchers' explicit theories that require appropriate novelty in order for creativity to be achieved (Diakidoy & Kanari, 1999). Regardless of content area, judging creative ability by products confuses potential with accomplishment (Sternberg & Lubart, 1995). A heavily product-oriented focus neglects the developmental aspect of creativity and may prevent teachers from seeing opportunities to develop students' everyday insights into more comprehensive creative products (Cohen, 1989). In fact, some teachers prefer less creative students in the classroom because they associate creativity with problem behaviors such as impulsivity and disruptive behavior (Dawson, 1997). Without proper training, even teachers who value creativity are unable to fully support its development in the classroom. Teachers who understand the nature of creativity are best equipped to avoid negative myths and stereotypes surrounding creativity (Beghetto & Kaufman, 2010). Teachers need an awareness of the variety of theories and definitions of creativity when selecting teaching and assessment tools in order to avoid unintentionally suppressing creative expression in the classroom (Fishkin & Johnson, 1998).

The question of who should do the training exists. Effective leadership is viewed as the impetus for school change, student growth, and formation of the culture within the school (Liontos, 1992; Sergiovanni, 1987). The principal serves as the key agent for change within the school and is identified as a critical component in the process of improving student achievement (Lashley, 2007; Praisner, 2003). "To date we have not found a single case of a school improving its student achievement record in the absence of talented leadership. Why is leadership crucial? One explanation is that leaders have the potential to unleash latent capacities in organizations" (Louis, Leithwood, Wahlstrom, &

Anderson, 2010, p. 9). A better understanding of principals' beliefs about creativity, creative students and instructional practices that foster the development of creativity provides valuable insights into how the diocese may better prepare principals so that these individuals are best equipped to train teachers to foster creativity in all classrooms.

Overview

The review of literature on Catholic Principals' perceptions of the nature of creativity is divided into five sections. Section one explores work surrounding the nature of creativity including definitions and its relation to intelligence and learning. Section two addresses the need for creativity in 21st century education, first in reference to the industrial age of education, identified as being responsible for the current format of most schools, then in reference to the constructivist approach to teaching. Section three explores barriers to creativity in the classroom including overemphasis on rote skills, convergent teaching practices, and problematic teacher attitudes toward creativity. Section four focuses on the ecclesial writings concerning the role of creativity in the Catholic school. The fifth section examines the role of principal as primary agent of change for the promotion of creativity at a school site exploring the 21st Century principal, cultural leadership, and the principal's role in forming school culture. The final section explores the six resources of creativity as developed through Sternberg and Lubart's (1995) Investment Theory of Creativity and then through subsequent research.

All references made to the Catholic school "teacher" are to be understood as a reference to the Catholic school "administrator" as well. This reference is rooted in the CCE (1982) utilization of references to the Catholic school teacher in ecclesial writings as referencing Catholic school administrators, directors, and auxiliary staff in its

document, *Lay Catholics in Schools: Witnesses to Faith*. Buetow (1988) additionally maintains that the concept of the Catholic school "teacher" in Catholic educational literature needs to be understood in its broadest terms, that is, of "one who helps to form human persons" (p. 243), not only as one who contributes to the systematic transmission of knowledge.

Nature of Creativity

Many creativity theorists cite the 1950 presidential address of scholar J.P. Guilford to the American Psychological Association as the beginning of the modern era of creativity research (Cropley, 2001; Fasko, 2001; Smith & Smith, 2010). In it, he stressed the importance of developing the creative potential of school-age children and called on researchers to make creativity a greater focal point of inquiry (Beghetto, 2010a; Guilford, 1950; Simonton, 2004). By the turn of the decade, systematic, empirical research on the topic of creativity was thriving (Feldman & Benjamin, 2006).

J.P. Guilford contributed much to our understanding of creativity, in particular with regard to giftedness and the measurement of creativity (Smith & Smith, 2010). Another key researcher during this early modern era of creativity was E.P. Torrance, who looked at creativity teaching and creative thinking in children. He also developed the Torrance Tests of Creative Thinking, which still dominates approaches to creativity testing in the United States (Smith & Smith, 2010; Torrance, 1972). Guilford and Torrance are considered the pioneers of modern creativity theory and research (Smith & Smith, 2010).

Creativity ultimately involves the production of original, potentially workable, solutions to novel, ill-defined problems of relatively high complexity **(**Lubart,

2001). While there are many definitions for creativity, most have overlapping values (Starko, 2010). Sternberg and Lubart (1999) define creativity as the ability to produce work that is both novel and appropriate, with appropriateness referring to whether a product or idea achieves an intended goal. According to Starko (2005), the product must be purposeful and involve the effort to make something work and to serve meaning. Craft (2001) similarly defines creativity as "an imaginative activity fashioned so as to produce outcomes that are both original and of value as well as include pursuing purposes" (p. 18).

The term creativity is often used interchangeably with innovation, as it is in this study, however, some authorities attempt to distinguish these concepts. Miron, Erez, and Naveh (2004) argue that all innovations require creativity while not all creativity leads to innovation. Utilizing their perspective, innovation is defined as a successful implementation of creativity that produces an impact. Scott and Bruce (1994) suggest that creativity specifically refers to process or idea production, and Fasko (2001) furthers this thought saying that creative thinking "leads to original and adaptive ideas, solutions or insights" (p. 244). Ramamoorthy, Flood, Slattery and Sardessai (2005) define innovativeness as engagement in the behaviors of the innovation process including idea generation, idea promotion, and idea realization with the intention of producing an innovation. Innovations can be defined as technological, including changes in a product or services as well as can be considered administrative, including changes in structures, activities, or social processes. These changes can be radical or incremental depending on how they influence the present paradigm (Damanpour, 1991).

Anderson, De Dreu, and Nijstad (2004) believe that in order to really understand innovativeness, one must see the interdependencies between different factors and levels. For example, individuals make up teams which are form organizations. Support for innovativeness at all levels from the individual to the organization is essential (Bharadwaj & Menon, 2000). Considering innovativeness merely as an outcome caused by certain variables is an incomplete view (Anderson et al., 2004). For the purposes of this study, innovation and creativity are used interchangeably. Unlike industry, the desired products, student learning, are not always tangible. It is for this reason that both terms will be used interchangeably to reference thinking that fulfills Sternberg and Lubart's definition of creativity as novel and appropriate work.

Creativity, Intelligence, and Learning

Initial developers of intelligence tests considered creativity to be one of two extremes. It was either considered a subset of intelligence or completely independent from it (Getzels & Jackson, 1962; Plucker & Makel, 2010). However, research has shown creativity and intelligence to have low correlation to each other (Kim, Cramond & VanTassel-Baska, 2010). Sternberg (2006) explicitly states that none of the attributes of creative thinking are fixed within an individual. He suggests that an individual may personally decide to overcome obstacles or take risks that may lead to creative thought at any given point in his or her life. Sternberg and Lubart's (1995) Investment Theory of Creativity supposes that creativity can be developed because it views creativity as a decision. O'Hara and Sternberg (2000-2001) suggest that students can become more creative if they believe the decision will not result in punishment. Williams, Markle, Brigockas, and Sternberg (2001) also claim that students can be taught to think more

creatively.

In fact, Bharadwaj and Menon (2000) argue that skills important to innovation can be developed, sustained, and enhanced by a supportive and encouraging work environment that includes training in these skills. According to Florida (2002), creativity and innovativeness are capabilities inherent in varying degrees within each individual rather than characteristics of only a select few. Creativity and innovativeness are skills that every individual can aspire to display (Amabile, Ccoti, Coon, Lazenby & Herron, 1996).

21st Century Needs

Need for Creativity Today

According to Kaufman and Sternberg (2010), "Creativity is at a historical premium" (p. xiii). Scholars of our "knowledge age" have argued that creativity, innovation, and ingenuity are more important today than ever before (Sawyer, 2010, p. 172). In a global society, creativity is in demand and considered something to be cultivated and rewarded (Gardner, 2007). Creative industries have become part of a leading economic sector that is developing at a pace greater than other economic sectors (Florida, 2002). Robinson (2001) claimed that we have entered a revolutionary new age, and that this future belongs to a very different kind of mind than the past, including that of synthesizers, creators, and meaning-makers (Gardner, 2007; Pink, 2005).

Creative thinking is regarded today as a commodity and a key "employability" skill, as well as a key factor of human capital (Florida, 2002; Gardner, 2007; Kampylis, 2010; Pink, 2005; Robinson, 2001). The conceptualization of human creativity as a commodity that may be achieved through a market approach to creativity in education

(Beghetto, 2010a) has raised many concerns that its integration in education has only been to meet the needs of the modern capitalist economy (Craft, 2006; Peters, 2009) rather than the common good (Banaji & Burn, 2006; Craft, 2006).

A broader understanding of human creativity has revealed that it has many benefits for people's personal lives as well as for society as a whole (Skiba et al., 2010). Personality theorists Maslow (1970) and Rogers (1961) defined creativity as no less than a vital life force (Feldman & Benjamin, 2006), and Maslow included creativity as part of self-actualization in his theory of motivation (Moran, 2010; Richards, 2010). Plucker et al. (2004) described creativity as an important component of healthy social and emotional well-being. It has also been identified that the use of creative abilities to solve relevant problems in one's life has contributed to one's overall personal and financial success (Skiba et al., 2010; Sternberg & Lubart, 1999). While modern creative industries have developed a necessity for creative employees, 21st century education systems have still remained based on the needs of 19th century industries (Darling-Hammond, 2010; DeZutter, 2011; Robinson, 2001; Senge, Cambron-McGabe, Lucas, Smith, Dutton & Kleiner, 2000; Sawyer, 2011), in which "there was little room for originality on a production line" (Kampylis, 2010, p. 21).

The current environment puts pressure on schools to educate and train the next generation for a future identified as unpredictable and very different from what currently exists (Darling-Hammond, 2010; Florida, 2002; Makel, 2009; Moran, 2010). The economy, culture and daily lives of individuals living today have become dependent on the ability to generate and manage new knowledge (DeZutter, 2011). For example, in the three years from 1999 to 2002, the amount of new information produced nearly equaled

the amount produced in the entire history of the world previously (Lyman & Varian, 2003). Moran (2010) identified that education should move away from primarily focusing on the transmission of pieces of information as it did in the 1900s. New pedagogies and education must enable students to "...learn how to learn, create, and invent the new world they are entering" (Darling-Hammond, 2010, p. 3). Schools must develop more than just students' factual knowledge base (DeZutter, 2011). "This mismatch between educational actions and societal value fails to establish a solid foundation for the future. We need to stop educating our kids for the 20th century!" (Makel, 2009). Establishing a common curricular goal of developing the creative competence of children is identified as one way to help prepare students for an uncertain future (Beghetto, 2010a).

Industrial Age Education to Constructivist Learning

The current systems of education in the United States were not designed to meet the challenges educators face today (e.g., Cropley, 2001; Darling-Hammond, 2010; Hartley, 2003; Robinson, 2001; Senge et al., 2000). Educators of the mid-19th century explicitly borrowed their designs from factory builders resulting in an industrial-age school system shaped in the image of the assembly line (Robinson, 2001; Senge et al., 2000). Senge et al. (2000) wrote the following:

> While the assembly-line school system dramatically increased educational output, it also created many of the most intractable problems with which students, teachers, and parents struggle to this day. ... It established uniformity of product and process as norms, thereby naively assuming that all children learn in the same way. It made educators into controllers and inspectors, thereby transforming the traditional mentor-mentee relationship and establishing teacher-centered rather than learner- centered learning. ... The assembly-line model tacitly identified students as the product rather than the creators of learning, passive objects being shaped by educational processes beyond their influence. (p. 31-32).

Conformity through an assembly line format was the main product of the education that arose from industrialization. Continuous variety was not considered efficient in either the factory or the school (Senge et al., 2000). The education systems designed to meet the needs of industrialization precluded any space for creativity (Sawyer, 2010).

The meaning of knowing has shifted from needing to remember and repeat information to being able to find and use it (Simon, 1996). Creativity is associated with knowing how to both manipulate and use procedural knowledge rather than simply have factual knowledge (Makel, 2009). Bransford, Brown, and Cocking (2000) stated that, due to the "sheer magnitude of human knowledge" and the fact that "information and knowledge are growing at a far more rapid rate than ever before in the history of humankind," the goal of education is better conceived as "helping students develop the intellectual tools and learning strategies needed to acquire the knowledge that allows people to think productively about history, science and technology, social phenomena, mathematics, and the arts" (p. 5).

The study of the mind has revolutionized over the last four decades according to Bransford et al. (2000) and a "new theory of learning" (p. 3) is coming about that leads to very different approaches to the design of curriculum as well as teaching and assessment than those often found in schools today. Many researchers agree that the primary characteristics of this new science of learning are an emphasis on understanding and a focus on the process of knowing (Beghetto & Plucker, 2006; Bransford et al., 2000, 2005; DeZutter, 2011; Hargreaves, 2003; Lobman, 2011; Sawyer, 2006, 2010, 2011). The foundations of this new science of learning can be found in the works of Piaget and Vygotsky and the constructivist theories of knowing (Bransford et al., 2000, 2005), which

assume that all new knowledge is constructed from previous knowledge (Bransford, Derry, Berliner, Hammerness & Beckett, 2005; DeZutter, 2011; Lobman, 2011; Moran, 2010; Piaget, 1978; Vygotsky, 1978).

In recent decades, scholars who study learning have reached a consensus about the strength of constructivist theory for understanding how people learn conceptual knowledge (Bransford et al., 2000; DeZutter, 2011; Sawyer, 2006). Constructivist learning theory views learning as a process in which individuals construct new knowledge by re-organizing their existing knowledge (e.g., Brooks & Brooks, 1999; Beghetto & Plucker, 2006; Bransford et al., 2000, 2005). Constructivism is a descriptive theory of the learning process, and it makes no prescriptions for teaching (DeZutter, 2011). However, there is much scholarship that addresses how we might use a constructivist understanding of learning in order to optimize the teaching process. The specific recommendations vary across content areas (Newton, 2012), but a few key features of constructivist-based teaching include: creating situations that challenge students' prior conceptions (Brooks & Brooks, 1999; DeZutter, 2011), allowing for collaborative work in which students stimulate each other's learning (Brooks & Brooks, 1999; Windschitl, 2002), and allowing students to take charge of their own learning and develop metacognitive skills (Bransford et al., 2000; Windschitl, 2002).

In constructivist theory, students are considered active learners who make meaning and construct their own knowledge (Bruner, 1960), and this process is essentially a creative one (Newton, 2012). Dewey favored a pedagogy and curriculum that centered on the needs and interests of the students and made them active participants in their own learning (Semel, 2002). This active role of the learner, also emphasized by

Vygotsky, Bruner, and Piaget, is a central part of the new science of learning (Bransford et al., 2000). This active learning has been linked to metacognition, which can be defined as an awareness of thinking and the ability to manage one's own thinking process (Bransford et al., 2000), and metacognitive processes have been tied to creative thinking (Fasko, 2001; Kozbelt, Beghetto & Runco 2010).

Barriers to Creativity

The pivotal role creative learning opportunities play in the regular classroom is well established (Aljughaiman & Mowrer-Reynolds, 2005). Encouraging creativity is not new to the mission of schooling, yet it is sometimes seen as a luxury or distraction from the core curriculum (Andiliou & Murphy, 2010; Kessler, 2000).

The perspective that the primary job of a teacher is to help children obtain or acquire knowledge and skills is a "deeply embedded cultural model of teaching" (Lobman, 2011, p. 73). This belief has been referred to by several names including: instructionism (Papert, 1994), transmission and acquisition (Rogoff, 1990; Sfard, 1998), or as the banking model (Freire, 1994). Conversely, constructivist approaches to learning and teaching stress the role of knowledge creation as opposed to knowledge transmission (Plucker et al., 2004). The banking model understanding of learning is criticized by many educators, who believe that it "leads schools to be organized around the pursuit of a narrowly conceived set of information and skills" (Lobman, 2011, p. 73). Banking model schools were designed to prepare students for the industrialized economy of the early 20th century (Egan, 1992; Eisner, 1998; Greene, 1988; Holzman, 1997, 2009; Lobman, 2011; Robinson, 2001). This perspective toward teaching was an effective model in transmitting a standardized collection of facts and procedures to students, however, there

is no room for creativity in classrooms operating under this framework (Beghetto, 2010a; Sawyer, 2010). The banking model not only allows no room for creativity, but may also works to suppress it (Beghetto, 2010a; Beghtetto & Plucker, 2006; Kaila, 2005; Kampylis, 2010; Makel, 2009; Shaheen, 2010; Robinson, 2001; Westby & Dawson, 1995).

It is documented that teachers tend to minimize failure of all types, and the fewer mistakes that students make, the more successful the teacher is regarded (Davies, 2000; Kampylis, 2010). In contrast, creativity researchers assert that failure is part of the creative process, and that students should be encouraged to risk being wrong, cope with frustration and failure, and not feel guilty about their mistakes (Cropley, 2001 Kampylis, 2010; Sternberg, 1996; Urban, 2007).

Another example of creativity-suppressing practices include teachers striving to keep their class quiet and disciplined (Kampylis, 2010). It may be for this reason that many classrooms are structured to discourage cooperative exercises and require students to work in relative isolation on tasks that require low-level, rather than higher-order reasoning (Brooks & Brooks, 1999). Teachers may find it difficult to change their teaching practices automatically and deal with the noise and new arrangements that creative teaching and teaching for creativity require (Jeffrey & Woods, 2009; Kampylis, 2010; Starko, 2005).

The American classroom is dominated by teacher talk (Beghetto, 2010a; Brooks & Brooks, 1999; Flanders, 1973, Goodlad, 1984). However, research shows that classroom discourse offers benefits for certain types of learning because the nature of the topic and flow of the class emerge from teacher and student together (Beghetto, 2009;

Beghetto & Plucker, 2006; Cazden, 2001; Sawyer, 2004a, 2004b). Goodlad (1984) described the results from multi-year study illustrating the starkness of this approach and identified that nearly seventy percent of talk in the classroom is teacher to students. Furthermore, the bulk of this teacher talk was instructing in the sense of telling, where barely five percent of this instructional time was designed to create students' anticipation of needing to respond (Beghetto, 2010a; Goodlad, 1984). Student thinking is devalued in many classrooms, and when students are asked questions, "most teachers seek not to enable students to think through intricate issues, but to discover whether students know the "so-called right answer" (Brooks & Brooks, 1999, p. 7).

The most common discourse pattern at all grade levels follows a three-part sequence of: teacher initiation, student response, and teacher evaluation or teacher feedback, known as IRE (Cazden, 2001; Mehan, 1979). This sequence or discourse pattern is the default option used by many teachers, and is sometimes called recitation or a traditional lesson (Cazden, 2001). According to Beghetto (2010a), by the time most students have completed their first few years of formal schooling, they have come to learn that their role in this pattern of talk is: to wait for the teacher to ask a question, quickly raise their hand, quietly wait until the teacher calls on the first student with his or her hand raised, share his or her response by trying to match the response with what he or she thinks the teacher expects to hear, and wait for the teacher to tell them if their answer is correct or acceptable (Beghetto, 2010a). The greatest criticism of the IRE lesson structure is that the teacher asks only "display" questions to which he or she already knows the answer (Beghetto, 2010a; Cazden, 2001). The teacher is either simply testing student knowledge or is "co-opting students to participate in what could otherwise be a

lecture—transforming a monologue into a dialogue by eliciting short items of information at self-chosen points" (Cazden, 2001, p. 46). Beghetto (2009) calls these fleeting classroom interactions micro-moments and claims that, while they may be easily overlooked and seem to have little lasting effect on students in the big picture of schooling, the repeated negative experiences during these micro-moments can accrue over time and have a profound impact.

The convergent IRE pattern may have some appropriate uses in the classroom, such as for quick review or checking for recall of factual information (Cazden, 2001). However, it provides little to no opportunity for students to explore and express their own ideas, interpretations, and insights about their learning (Beghetto, 2010a; Brooks & Brooks, 1999; Cazden 2001; Goodlad, 1984). One researcher refers to this common pattern as intellectual hide and seek in which students learn to suppress their own unique thoughts in favor of providing responses they think their teachers expect and want to hear (Beghetto, 2010b; Black & William, 1998). Ultimately, this process undermines the possibility for students' creative potential to be nurtured and developed in the classroom, and students quickly get the message that only expected answers are welcome in the classroom and that unexpected or otherwise creative responses are not welcomed (Beghetto, 2010a; Beghetto, 2010b). Unexpected student ideas may be viewed as disruptive and are habitually dismissed, expressing concerns about going off task (Kennedy, 2005). These habitual dismissals discourage students from investing intellectual energy in their learning (Black & William, 1998; Kennedy, 2005). They may also explain slumps in student creativity as during their fourth year of school (Beghetto, 2007b; Cropley, 2001; Torrance, 1968). Students come to see that managing school

means letting go of curiosity, creativity, and meaningful learning (Beghetto, 2007b; Fried, 2005).

While teachers may generally appreciate creativity and have good intentions for further developing the creative potential of children, findings show they have little tolerance for manifestations of creativity in their classrooms (Andiliou & Murphy, 2010; Beghetto & Plucker, 2006; Chappel, 2007; Fleith, 2000; Runco, 2003b; Runco & Johnson, 2002). Evidence shows that few teachers actively support creative expression within their classroom (Beghetto 2007a; Runco, 2003b; Sternberg, 2003). Beghetto and Plucker (2006) believe part of the reason for the marginalization of creativity in schools may be due to problematic views of teaching and learning. Negative or conflicted views held by teachers about creativity can result in missed opportunities for them to develop students' creative potential and may even result in the systematic suppression of students' creative expression in the classroom (Beghetto, 2009; Beghetto & Kaufman, 2010). These views are referred to by researchers as implicit theories which serve as subjective views of creativity that govern expectations and guide certain behaviors (Kampylis, 2010; Runco, 1990). Implicit theories include beliefs or values, images or metaphors, and biases that practitioners develop in the course of their working lives (Kercz, 1992). Teachers hold implicit theories about their students, the subjects they teach, and their roles and responsibilities, including how they should act (Clark, 1988; Kampylis, 2010). Teachers' implicit theories generalize from personal experience rather than "...neat and complete reproductions of the educational psychology found in text books" (Kampylis, 2010, p. 6). Teachers' implicit theories play an important role in the judgments and interpretations teachers make in the way in which they plan class activities (Beghetto,

2006, 2007a; Kampylis, 2010). Implicit theories can be problematic when teachers are unaware of their subjectivity and inconsistency (Kampylis, 2010) and can even facilitate or inhibit students' creative thinking unintentionally (Kampylis, 2010; Kowalski, 1997). The term misconception describes inaccurate or misleading common beliefs about creativity and creative thinking (Aljughaiman & Mowrer-Reynolds, 2005). According to researchers, in order for creativity to find a legitimate space in the classroom, educational leaders must examine and understand how teachers conceptualize creativity (Beghetto & Plucker, 2006).

Many teachers, within the U.S. have been found to hold negative views about creative students (Beghetto & Kaufman, 2010). Creativity researchers have identified a variety of problematic beliefs and attitudes about creativity indicating that teachers sometimes prefer less creative students in their classroom (Beghetto & Kaufman, 2010; Cropley, 1992; Dawson, 1997; Scott, 1999). Torrance (1963) was one of the earliest creativity researchers to document how teachers typically view the ideal student as compliant and conforming. Contemporary creativity researchers report similar findings, documenting that teachers have been found to associate creativity with nonconformity, impulsivity, and disruptive behavior (Beghetto, 2010a; Chan & Chan, 1999; Dawson, 1997; Scott, 1999). In multiple studies, teachers reported that they enjoyed working with creative students, yet when given adjectives that are typically used to describe creative individuals, they rated students who possessed those adjectives as their least favorite type of student (Aljughaiman & Mowrer-Reynolds, 2005; Westby & Dawson, 1995). "[E]ducators are attracted to creativity, but they sometimes feel that they should not get too close, so as not to end up as a moth to a flame" (Smith & Smith, 2010, p. 251).

Creative children thrive on questioning received information and tend to look at things from a multitude of different angles meaning they may offer unexpected answers to teachers' questions, ask surprising questions, or go about a classroom task in an unexpected way (Cropley, 2010). It can be difficult to distinguish between creativity in the classroom and disorderliness or disruptiveness given that creativity represents a threat to good order in the classroom (Cropley, 2010; Smith & Smith, 2010).

Confusion about the nature of creativity can offer an additional roadblock for teachers who might otherwise want to support the creative potential of their students (Beghetto, 2010a; Plucker et al., 2004). Teachers who have a clear understanding of the nature of creativity are able to avoid negative misconceptions about creativity allowing for it to exist in their curriculum (Beghetto & Kaufman, 2010; Beghetto & Plucker, 2006). A common area of confusion for educators is an understanding of creativity as solely original products (Beghetto, 2010a). Others view creativity as "doing whatever you like regardless of accuracy, appropriateness, or effectiveness" (Cropley, 2010, p. 308). However, researchers report higher levels of creativity in the classroom when teachers recognize that creativity is more than unconstrained originality and understand that it requires a combination of originality and task appropriateness (Beghetto, 2010a; Beghetto & Kaufman, 2010; Plucker et al., 2004).

Finally, teachers may praise students' creative products, but fail to recognize unique insights and interpretations that may continue to develop into creative accomplishments (Beghetto & Kaufman, 2010). Some teachers focus only on creative end-products believing that creativity requires the production of a physical product which runs the risk of overlooking the creative potential of individuals (Beghetto, 2010a;

Runco, 2005; Runco, 2007).

Catholic Church Documents on Teaching Creativity

Catholic schools are key to both the advancement of humankind as well as the ecclesial mission of the Church (Congregation for Catholic Education [CCE], 1977, 1982, 1988, 1997, 2002, 2007, 2009; Miller, 2006; National Conference of Catholic Bishops [NCCB], 1972, 1976, 1979). The history of Catholic schools shows that the American bishops established them in 1884 as a response to the anti-Catholic sentiments prevailing within the Protestant populace toward Catholic immigrants. By the mid 20th century, 14,000 Catholic schools, which served over five million immigrant Catholics, became widely assimilated into American culture leading to greater mobility by its graduates. "Today, Catholic elementary and secondary schools in the United States remain the largest private school system in the world and still provide remarkable, and often transformative, education, often on shoestring budgets" (Notre Dame Task Force, 2006, p.1).

In 1929, Pope Pius XI wrote the encyclical *Divini Illius Magistri* in which he outlined the position of the Church on the importance of the education of children. He emphasized that those in education must see each student as "a whole, individually and socially" (#14), and that education must include "physical and spiritual, intellectual and moral, individual, domestic and social" (#95) teachings. Sternberg, Ferrari, Clinkenbeard, and Grigorenko (1996) examined the role traditional classrooms play in either supporting or discriminating against children with creative strengths. Their belief is that most schooling systems favor children with strength in memory and analytical abilities over those with creative abilities. Their findings are that students who are taught

in a way that best fits how they think are those who do the best in school. If a student's strengths are not highlighted through education, then they are not being taught as a whole, and the goal expressed by Pope Pius XI is not achieved.

The USCCB (2005a) acknowledged that Catholic schools in the third millennium face enormous personnel, economic, and Church-related issues that challenge their future (Notre Dame Task Force, 2006). In its pastoral statement, Renewing Our Commitment to Catholic Elementary and Secondary Schools, the USCCB (2005a) urged Catholic institutions and their leaders nationwide to face issues of academic excellence "with faith, vision, and the will to succeed because the Catholic school's mission is vital to the future of our young people, our nation, and most especially our Church" (p. 15). One effort made to support Catholic schools was the creation of the National Standards and Benchmarks for Effective Catholic Elementary Schools. According to Ozar (2012), the National Standards and Benchmarks for Effective Catholic Elementary and Secondary Schools "are a compass, not a how-to-manual…that provide a road map for arriving at the 21st century Catholic schools we want and need" (p. 18). They give the entire Catholic community a common framework of universal criteria for Catholic school excellence. Standard 7 states, "An excellent Catholic school has a clearly articulated, rigorous curriculum aligned with relevant standards, 21st century skills, and Gospel values, implemented through effective instruction" (p.11). The Church has always recognized the importance of the academic endeavors of its Catholic educational centers (CCE, 1988). It has also proclaimed that Catholic education is entrusted with educating the whole child, giving careful attention to their intellectual and creative needs. According to Ozar's (1994) research, Catholic educators are called to embrace an

outcomes-centered curriculum and decision-making process. Her research shows that this process is intended to assure that our 21st century Catholic schools "become and/or remain values-based, learning-centered communities" (p. 2). The work of Baxter (2011) stated, "We are not meant to be static, but rather to be models for the lifelong learning that we aim to inculcate in our students" (p. 22). Massa (2011) advocated for a "student-centered, nurturing environment offering students support and challenge as well as an honored and unwavering commitment to academic excellence" (p.79).

Pope Pius XI stated that the product of Christian education should be a "true and finished man of character" (#96) demonstrating his belief that Christian education should enable the student to always think, judge and act enlightened by right reason. Another study by Sternberg, Torff, and Grigorenko (1998a) concluded that teaching for creative, analytical, and practical thinking allows students to encode information in the highest variety of ways leading to the best to capitalization of strengths while compensating for weaknesses. "Creativity is as much a decision about and an attitude toward life as it is a matter of ability. Creativity is often obvious in young children, but it may be harder to find in older children and adults because their creative potential has been suppressed by a society that encourages intellectual conformity" (Sternberg, 2006, p. 93). The messages expressed by Pope Pius XI are of thinking not conformity. Catholic educators are called to teach in ways that inspire creativity.

The Second Vatican Council (1965a, 1965b, 1965c) stated in its Declaration on Christian Education, *Gravissimum Educationis* (1965a), that the Catholic school was charged with developing students' intellectual abilities in order to develop a sense of values, and to form and follow their consciences. This sentiment was furthered in the

Pastoral Constitution on the Church in the Modern World, *Gaudium et Spes*, the Second Vatican Council (1965c) by its emphasis that human beings needed to choose freely following their conscience. The piece stated that it was necessary "to develop the human faculties in such a way that there results a growth of the faculty of admiration, of intuition, of contemplation, of making personal judgment, of developing a religious, moral and social sense" (#59). The CCE (1977) declared that implicitly and explicitly the educational program in schools should address the education of the whole child and that adherence to Catholic teachings should permeate the school in its entirety. It charged Catholic schools to "integrate all the different aspects of human knowledge through the subjects taught, in the light of the Gospel" (¶ 37).

Pope John Paul II made widely known the new Code of Canon Law in 1983, and canons 793-821 which focused on Catholic education indirectly asserting the value of creativity in Catholic education saying, "Since true education must strive for complete formation of the human person that looks to his or her final end as well as to the common good of societies, children and youth are to be nurtured in such a way that they are able to develop their physical, moral, and intellectual talents harmoniously, acquire a more perfect sense of responsibility and right use of freedom... (Canon 795)." In *Educating Today and Tomorrow: A Renewing Passion*, the CCE (2014) recognized that there are several current and future challenges to Catholic education in our global world as it continues to expand the breadth of available knowledge. It directs schools to respect students and to "enrich them, fostering creativity, imagination, the ability to take on responsibilities, to love the world, to cherish justice and compassion" (p. 13). The gap

between the indirect call for creativity within schools and the reality of today's Catholic learning environments supports the need for this study.

Principal's Role

History of the School Principal

The early 1900s marked the dawn of the study of school leadership with specific emphasis on the role of the leader emerging in the late 1940s. The predominant role enacted by principals from the 1920s until the 1970s was one of administrative manager (Hallinger, 1998). In 1948, Stodgill synthesized data from 124 trait studies conducted between 1904 and 1947 on effective leadership. From this data, Stodgill (1948) identified five traits of an effective leader: capacity, achievement, responsibility, participation, and status. It was not until work in the 1970s that educational research refocused on school leadership emphasizing aspects of instructional leadership specific to effective school research (Brookover & Lezotte, 1979; Edmonds, 1979a, 1979b; 1982; Purkey & Smith, 1983; Weber, 1971).

Ongoing interest in school leadership led Stodgill (1974) to analyze 163 new trait studies of effective leaders. The research noted specific skills which school leaders must acquire to be effective, including an appreciation for task completion and responsibility, a persistent pursuit of goals, originality in problem solving, the ability to guide initiatives in social situations, a strong sense of confidence in oneself, the power to tolerate frustrations and delays, ability to influence the behaviors of others, and the capacity to structure interaction systems to the objectives at hand (Stodgill, 1974). The identification of specific skills that an effective leader should possess transformed the focus of school principal research beyond that of only a supervisor toward that of an instructional leader.

Research in the 1980s turned toward school principals again identifying school administrators as more than managers of schools. Researchers began to explore the depth of the role of the principal and discovered administrators were held responsible for more than managerial tasks alone. The job began to necessitate not only holding high expectations for teachers and students, but to also integrate close supervision of classroom instruction, coordination of the school's curriculum, and close monitoring of student progress emerged as descriptors of effective principals (Hallinger & Murphy, 1987). Connecting the behavior of the school leader with changes in schools, Bossert, Dwyer, Rowan, and Lee (1982) linked the behavior of the administrator to school climate, teacher behavior, and ultimately student learning (Brookover & Lezotte, 1982). The term instructional leader emerged from this research and became an integral part of the language of educational research today.

Research studying the characteristics of effective principals continued throughout the early 1990s and into the 2000s. The No Child Left Behind Act (NCLB) legislation initiated by the federal government in 2001 increased academic standards and intensified student accountability altering the expectations held to schools, both at the teacher and principal level. As accountability and student achievement became the priority for schools, and the demand of high-stakes testing compelled principals to become more actively involved in the teaching and learning of the school, acting in the role of an instructional leader (Acheson & Gall, 1997; Blase & Blase, 2001; Cotton, 2003).

21st Century Principals

The school principal has more responsibility and is held more accountable than ever before for the education of all students (Lashley, 2007; Praisner, 2003). The

principal's role has become increasingly complex as the nature of society, political expectations, and schools as organizations have changed (Leithwood & Duke, 1999). As a result of numerous changes facing schools in the early 2000's, the view of the principal as transformational leader emerged. The notion of the transformational leader resulted mostly from the work of James McGregor Burns (1978), which provided a conceptual framework on which to build the distinction between transformational leadership and other types of leadership. According to Bass and Steidlmeier (1999), transformational leadership involves: charismatic influence, inspirational motivation, intellectual stimulation, and individualized consideration. Leithwood (1994) argued that transformational approaches to school leadership are especially appropriate to address the challenges facing schools in the 21st century. Experts in leadership theory support the notion that effective change within the school building comes only through the leadership of the principal (Cotton, 2003).

According to Lashway (2003), the role of the principal is rapidly changing from simply encouraging teachers' efforts to leading teachers to produce tangible results. A principal's effectiveness during this new educational era requires complex knowledge and skills related to organizational culture and management. According to Elmore (2002) achieving true effectiveness in today's educational era requires not just innovative practices, but a different mindset. Lubart and Sternberg (1995) argued that the person evaluating employees is understandably a major factor impacting the contextual environment. Simonton (1994) suggested that integrating the elements of creativity into employee evaluations is necessary in order to increase growth patterns of creativity. Weihrich, Cannice, and Kootz (2010) note that transformational leaders, who

often include innovative practices in their evaluation procedures, have the greatest success at inspiring creativity. These leaders help their followers grow and develop by identifying their individual needs and empowering them to grow by aligning the objectives and goals of individuals with that of the larger organization (Bass & Riggio, 2006). The components of transformational leadership combine to support the growth of individuals while also fostering an environment perfect for the growth of creativity (Burns, 1978).

Jung (2001), believed that transformational leaders encourage creativity more than transactional leaders, which is supported by Gumusluoglu and Ilsev's (2009) research. Their work demonstrated a positive relationship between transformational leadership and employees' creativity. Eisenbeiss, Knippenberg, and Boerer's (2008) research also proposed that transformational leadership works to support innovative thinking because transformational leaders foster a climate for excellence through their active support for innovation. There is growing evidence that the influences and impacts of the behaviors of the school principal on school climate and school effectiveness are substantial (Salisbury & McGregor, 2002).

Principal's Role in Forming Culture

Peterson and Deal (1998) refer to culture as the "underground stream of norms, values, beliefs, traditions, and rituals that has built up over time as people work together, solve problems, and confront challenges" (p. 28). They believed that school leaders have an important role in deliberately shaping the culture of their schools, through "positive values and shared purpose" (Peterson & Deal, 2002, p. 30). Barth (2002) cited the need for instructional leaders to have a clear understanding of the culture of their school and to

actively lead faculty and students in discussing and shifting unhealthy beliefs and practices that interfere with learning. He also discusses the need to "uncouple learning and punishment" (Barth, 2002, p. 11). At its essence, Barth (2002) believed that instructional leadership is about creating a culture that fosters, nurtures and develops lifelong learning in both educators and in students.

According to Kruger, Witziers and Sleegers (2007), principals can influence student outcomes through their impact on teacher satisfaction and working conditions. The principal's behaviors influence school culture, teacher satisfaction, and student achievement (Davis & Hensley, 1999). Over the long term, satisfied teachers form a positive school culture and have a significant impact on student outcomes (Ma & McMillan, 1999; Leithwood & McAdie, 2007). Marzano, Waters, and McNulty (2005) described the link between school culture, leadership, and student achievement. From their comprehensive meta-analysis of empirical studies of leadership and student achievement, they described the following key leadership behaviors: promote cohesion among all staff, promotion of a sense of well-being among all staff, development of an understanding of purpose among all staff, and development of a shared vision of what school should be like. Marzano et al. concluded that each of these leader behaviors is directly related to school culture, and school culture is related to student achievement.

The literature reveals that school culture is one aspect of a school which a leader can influence (Barnett & McCormick, 2004; Leithwood et al., 2006; Ogawa & Bossert, 1995). School leadership and school culture have been found to impact student achievement (Andrews & Soder, 1987; Barnett & McCormick, 2004; Hallinger & Heck, 1996; Le Clear, 2005; Leithwood et al., 2006; Lucas, 2001; Lucas & Valentine, 2002;

Miles, 2002; Waters et al., 2003). Principals want to positively affect the culture of the school because it is a major factor in the school improvement process (Gruenert, 2000). In fact, "leadership effects on student learning occur largely because leadership strengthens professional community; teachers' engagement in professional community, in turn, fosters the use of instructional practices that are associated with student achievement" (Wahlstrom, Louis, Leithwood, & Anderson, 2010, p. 10).

Principals' Role in Providing Professional Development

The attributes of quality school principals illustrate that successful school leaders influence student achievement through the support and development of effective teachers (Davis, Darling-Hammond, LaPointe & Meyerson 2005). By facilitating the learning and growth of teachers, the school's instructional leader exhibits behaviors that influence teacher efficacy. According to Lambert (1998), the principal's role includes developing a shared vision, establishing a learning-centered climate, and engaging school community members in decision-making processes (Lambert, 1998, pp. 26-27). Fullan (2005) identifies the principal's role in establishing collective professional development and capacity building defining it as "the daily habit of *working together*" as well as "constantly developing leadership for the future" (p. 69). Because much of the collaborative professional learning occurs at the school level, principals bear a significant responsibility in the establishment and support of these structures. Although professional learning communities are evident in varying forms in schools and districts, their premise is defined by Schmoker (2005) as:

> a group of teachers who meet regularly as a team to identify essential and valued student learning, develop common formative assessments, analyze current levels of achievement, set achievement goals, share strategies, and then create lessons to improve upon those levels.... Importantly, there must be an expectation that this

> collaborative effort will produce ongoing improvement and gains in achievement (p. xii).

According to Schmoker, there is agreement in the educational research community that, properly structured with elements of coherence, regularity, structure and focus, Professional Learning Communities (PLCs) are an effective vehicle for improving teaching and learning and for raising professional morale.

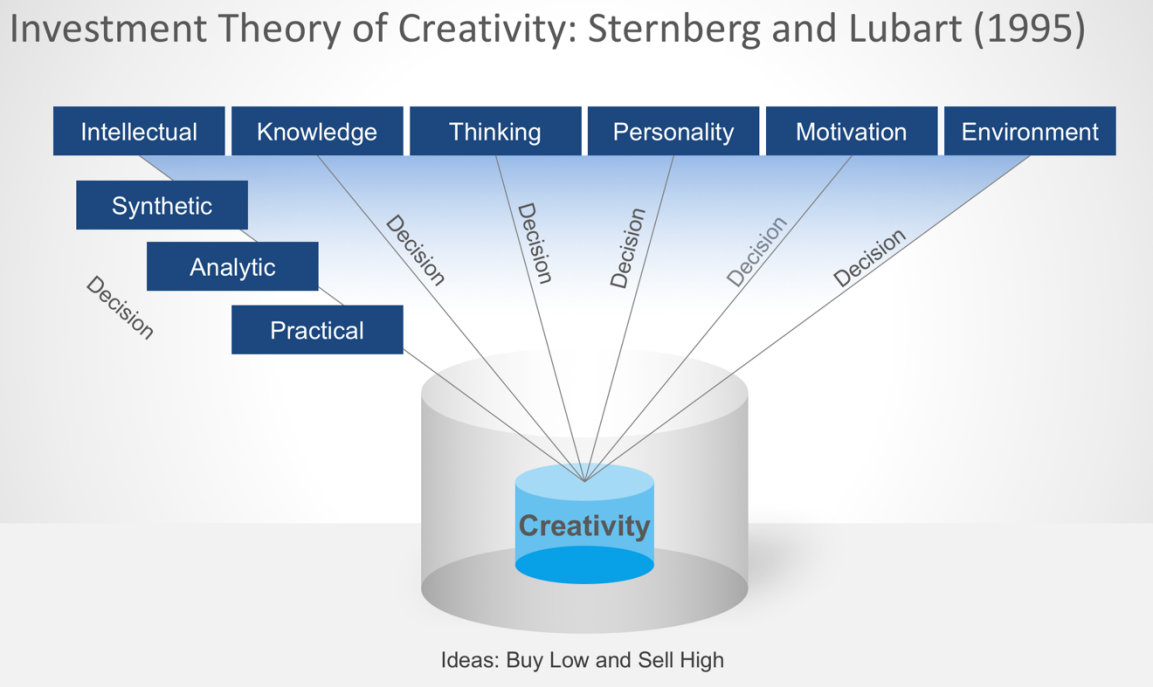
DuFour (2005) outlined the key ideas about PLCs as he cautioned that the term is applied loosely at some sites. He indicated that the core mission of education is now "ensuring that all students learn" (p. 32), that a "culture of collaboration" (p. 36) is necessary for school improvement to occur, and that effectiveness is judged "on the basis of results" (p. 39). DuFour, Eaker and DuFour (2005) further developed this idea by explaining that PLCs bring significant challenges including developing an accurate and shared understanding of PLCs, creating sustainable change, and transforming school culture. Tensions are created by competing forces as research about learning continue to challenge traditional beliefs and practices. Sparks (2005) believes that PLCs cannot be effective without the guidance and support of skilled leadership. "The quality of teaching, learning and relationships in professional learning communities depends on the quality of leadership provided by principals and teachers" (Sparks, 2005, p. 156-7). Holter and Frabutt (2012) found that principals who performed action research to study school problems within their schools directly and scientifically were better able to resolve pressing issues in their schools and to resolve them effectively. Professional development interventions can re-energize teachers allowing them to learn new, innovative methods to enhance student learning (Keeley, 2001).

Theoretical Framework: Investment Theory of Creativity

Sternberg and Lubart's (1995) Investment Theory of Creativity is the theoretical framework through which this study was approached. This theory proposes that creative people are willing to pursue ideas that are unknown but hold growth potential. Sternberg's (2006) premise was that creativity is a decision that anyone can make but that few do because the costs are too high, and he suggested that "society can impact the decision to be creative by increasing the rewards and decreasing the costs of thinking creatively" (p. 97). In the school context, it is the responsibility of the principal to reduce the cost and increase rewards for students to display and develop creativity.

A distinguishing factor of creative thinkers is persistence in the face of initial resistance to their ideas. Sternberg and Lubart (1995) propose that a creative person is an investor who "buys ideas low" allowing him or her to "generate and promote ideas that are novel and even strange and out of fashion" (p. 2). A creative person's ideas are not usually accepted immediately, yet the creative person persists despite discouragement and resistance. He or she can "sell high" when these ideas are recognized and appreciated (Sternberg & Lubart, 1995). According to Sternberg (2006), creativity requires six different resources (See Figure 1) to develop, including intellectual abilities, thinking styles, personality, motivation, knowledge, and environment (Sternberg & Lubart, 1995).

Figure 1 Investment Theory of Creativity Structure



Intellectual Skills

Sternberg critiqued reliance upon traditional measures of intelligences, noting that it "is not quite like cognitive processes such as perception, learning, and problem solving, but neither is it totally different from them. A wholly cognitive theory that tries to equate intelligence to some aspect or aspects of cognition fails to recognize the 'stipulative' nature of the concept" (1988, p. 70). He criticized the pro-Western bias from which most IQ tests emerge saying, "Intelligence is essentially a cultural invention to account for the fact that some people are able to succeed in their environment better than others" (p. 71). Sternberg identified a triarchic theory that intelligence involves not only the ability to learn and reason with new ideas, but also the ability to reason and learn with new kinds of ideas and concepts that could be used on existing knowledge. Sternberg (1988) divided intelligence into three distinct operations including synthetic, analytic, and practical

intelligence.

Synthetic reasoning focuses on unconventional thinking and information processing in dealing with novel problems and demands. Creative work includes an awareness of novelty in the conceptual system of solving a problem including the ability to form novel ideas through a three-step process. Sternberg (1988) named these individual steps meta-components. They include selective encoding, selective comparison, and selective combination.

Selective encoding is a formative evaluation process in which the elements of an idea that have a potential role to play in the problem's solution are either decided to be relevant or irrelevant for the task at hand. A creative individual possesses a willingness to assign atypical evaluations of relevance or irrelevance to a wide array of problem elements that come through his or her consciousness. Sternberg and Lubart (1995) suggested that informal, domain-specific knowledge gained indirectly through personal field experiences rather than curricular-based studies might strongly influence this intuitive process. Selective comparisons are formed when the creative thinker reflects upon earlier experiences and explores whether a previously unseen relationship could exist between the past and present. Selective combination is the process by which the mind forms novel connections between previously disunited elements.

Analytic intelligence is the ability to recognize which of one's ideas are worth pursuing and which are not. This type of intelligence is reflected in three smaller mental processes. The first of which is executive processes including planning, monitoring, and decision-making. The second is performance components including encoding, combining, comparing, and responding. The final mental process is knowledge-

acquisition components including selective encoding, selective combination, and selective comparison (Sternberg, 1985).

Practical-contextual intelligence promotes a fit between one's idea and the environment through communicating, taking feedback, revising, and "selling" one's ideas (Sternberg & Lubart, 1995). Creative and intelligent behavior cannot be separated from the larger sociocultural context in which it occurs. Contextual ability enables a person to deal with whatever context in which he or she finds him or herself in order to be most successful at achieving creative thinking. It involves adaptation to the present environment, selection of a more ideal environment than the present one, and shaping of the present environment to improve the fit with one's skills, interest, and values (Sternberg, 1985). Such ability enables one to communicate and understand others' critiques, justify and revise one's ideas, and transmit and sell creative ideas.

Knowledge Skills

According to the Investment Theory, both formal knowledge and informal knowledge are important for creativity. One needs to know some knowledge within a formal discipline in order to be creative. According to this theory, preparation in formal knowledge promotes creativity by helping one invent something original rather than reproducing something that already exists. Formal knowledge offers one an understanding of the field so that he or she can think against the common trend. It also assists one in elaborating an idea into a complete work because it provides one with a solid foundation so that he or she can focus on the new idea rather than the basic knowledge (Sternberg & Lubart, 1995). A good mastery of domain specific knowledge seems to be critical for creativity (Csikszentmihalyi, 1990; Howe, 1999).

Too much knowledge may prevent one from seeing things in a new way ultimately restricting creativity. For experts in an area, too much knowledge may restrain thinking preventing them from entertaining possibilities or creative alternatives (Frensch & Sternberg, 1989). For young children, too much knowledge is also likely to harm imagination or limit the creation of new ideas (Lubart & Georgsdottir, 2004). The negative impact of knowledge on creativity can happen to all individuals. However, as is suggested in the Investment Theory, one can reduce impact by alternating routine, asking for feedback, or keeping learning new.

Informal knowledge may play an even more important role than formal knowledge in decision making (Sternberg & Lubart, 1995). Children in school, for example, should know in which occasion or what type of creativity is appropriate to show and will be expected and appreciated. Informal knowledge helps children to "most effectively... use their creativity so that it would benefit rather than hurt them" (p. 172). However, in order to achieve creativity, the individual needs to simultaneously conform to and exceed the expectation. Children should know not only how to adapt to the routines but also how to detach from the rules to create something new.

Thinking Skills

Thinking styles are related to creativity (Kogan, 1973). For example, "the legislative style is the single style most conducive to a creative mode of thought" (Sternberg & Lubart, 1995, p. 180). People with this style usually like to plan and do things their own way. They prefer problems with little structure, and they enjoy exploring and discovering how to solve a problem rather than being told to follow rules and steps. The Investment Theory suggests that the legislative style is often correlated

with liberal thinking styles. A liberal style refers to the preference to "go beyond existing rules and procedures... [A person with this style] prefers novelty, likes to maximize change, and seeks ambiguous situations" (p. 195). In addition, a creative person also tends to be more global than local in his or her thinking styles. A global style refers to the preference for big picture thinking rather than the details. People with such style prefer to think abstractly and sometimes ignore the small details. "If you were crossing a jungle, you would take crude tools like a machete and an axe, rather than a fine tool like a clarinet screwdriver" (p. 192). Similar to this description, real world problems are often ill-defined without a clear clue pointing to one standard answer. A global thinker is most successful when thinking through the larger picture to come up with a creative solution.

In contrast, a local thinking style refers to a preference for details. People with this style "tend to be more pragmatic, concrete, and often down-to-earth... [and sometimes, they] are susceptible to not seeing the forest for the trees" (p. 192). Thinking in a local style is similar to walking around the previous scenario with refined tools. After one finds his or her way out of the forest, the individual can switch to more elaborate methods of thinking. According to the Investment Theory, the ideal image of an individual who is creative is a mixture of both styles, with more global than local style (Sternberg & Lubart, 1995).

The thinking style resources proposed in the Investment Theory overlap with and relate to additional creative thinking styles supported by many empirical studies in the field of creativity, including preferences for thinking metaphorically, being flexible, making independent judgments, thinking logically, breaking conventional mind-set, finding order in chaos, creating internal visualizations, using wide categories and images,

building new structures, questioning norms and assumptions, being alert to novelty and gaps in knowledge, utilizing existing knowledge as base for new ideas, and valuing originality and creativity (Tardif & Sternberg, 1988).

Intellectual abilities refer to the ability to view things in novel ways, evaluate the ideas, communicate and promote the ideas to others, and utilize outside feedback. thinking styles refer to "how one utilizes or exploits one's intelligence. They [thinking styles] are not abilities but rather ways in which one chooses to engage and use those abilities" (p. 7). A person who has the intellectual ability to create new solutions may not do so if the person does not enjoy utilizing that ability. Thinking style is "whether and how one uses that ability...it is needed to help complete the circuit; to 'switch on' abilities that otherwise might lie dormant" (p. 7).

Personality

Personality is the fourth resource important to the formation of creativity. Sternberg (2006) finds that there are many personality traits attributed to creative functioning including "willingness to overcome obstacles, willingness to take sensible risks, willingness to tolerate ambiguity, and self-efficacy" (p. 89). Creative thinkers must have a personality that can tolerate both the uncertainty of an idea's acceptance as well as the desire to keep working toward that acceptance. Baer and Frese (2003) show that organizations with a climate for psychological safety are especially conducive for innovativeness. According to Ekvall (1996), an organization's climate is an intervening variable because "it influences organizational processes such as problem solving, decision making, communicating, coordinating, controlling; and it influences psychological processes such as learning, creating, motivation and commitment" (p.

106). An individual's perceptions of a climate's creativity at the group level can influence employee engagement in innovative behavior (Anderson & West ,1998).

According to the Investment Theory, a creative person often has several personality traits that support creativity, including (1) perseverance in the face of obstacles, (2) willingness to take sensible risks, (3) willingness to grow, (4) tolerance of ambiguity, (5) openness to experience, and (6) belief in oneself (Sternberg & Lubart, 1995). According to the Investment Theory, obstacles toward creativity can come from both external sources including negative feedback from other people as well as internal sources including intellectual difficulties and concern for going against the rules. A creative individual is able to live with these pressures and persist in his or her work. When it comes to taking risks, risks refer to "the chance of a loss, and losses are indeed possible when one is taking gambles with... ideas" (p. 44). According to the Investment Theory, "in order to do something really creative, and something that makes a difference to the world, you have to take that risk" (p. 213). "Just as nobody ever got rich or even well off by placing their money in low-interest passbook bank savings accounts, so has no one ever gotten rich with ideas by always going for the safest options" (p. 214).

When it comes to continuous growth, to stay creative, a person has to resist pressures that keep him or her stagnant with a single idea. Individuals who do not grow, according to the Investment Theory, experience pressures including the fear of failure (Sternberg & Lubart, 1995). These individuals desire to maintain his or her reputation after one success. Individuals may also experience pressure from others if they attempt change in the solution. Many individuals resist change preferring the way things were for familiarity's sake. "In the world of work, it is often quite difficult to establish yourself in

a new endeavor once you have become well known in another" (Sternberg & Lubart, 1995, p. 221), such as the stereotyping of role for actors.

Tolerating ambiguity includes withstanding "the uncertainty and chaos that result when a problem is not clearly defined or when it is unclear how the pieces of the solution are going to come together" (p. 223). Encountering uncertainty is common in creative work leading to the discomfort of ambiguity. Individuals who cannot tolerate ambiguity long enough for the ideas they are producing to fully form do not achieve creativity. These ideas could have fantastic creative potential, but end up as mediocre. "[To] optimize your creative potential, you (and others) need to be able to tolerate the discomfort of an ambiguous situation long enough so that what you produce is the best or close to the best of which you are capable" (p. 224).

When it comes to experience, creative people are curious about the world and seek new experiences to which they can find inspiration. A creative person must have self-belief and courage. New and creative ideas usually challenge the status quo so that they are often disagreed with or unsupported. It is common for creative individuals to become discouraged making it even more essential for a creative person to believe in his or herself and have the courage to stand against the crowd. "The question is not whether you have failures but whether you believe in yourself, have enough courage of your convictions, and are able to bounce back from failures" (p. 229).

The previously mentioned personality traits overlap with and relate to some other personality traits supported in many empirical studies in the field of creativity. For example, it was found that creative people often demonstrate willingness to confront hostility and take intellectual risks. They are perseverant, curious and inquisitive, and are

open to new experiences. Creative individuals reject limits imposed by others, and they have a high degree of self-organization to set their own rules. Ultimately, they are reflective and internally preoccupied, and they tend to play with ideas (Tardif & Sternberg, 1988).

Motivation

According to Amabile (1983), creative work occurs most often in areas where people really love what they are doing and focus on the work rather than the promise of any extrinsic reward. Motivation is the fifth resource important to the formation of creativity. Sternberg (2006) explained that like the attributes of thinking, motivation is something inherent within each individual. One can decide to be or not be motivated by a perceived reward. An organizational climate that is considered safe and encourages risk-taking is important in motivating individuals to take initiative (Morrison & Phelps, 1999). This initiative plays an important role in the innovation process because individuals who have more initiative are most likely to approach their work actively and go beyond what is formally required while also establishing the persistence necessary to follow through from idea creation to implementation (Miron et al., 2004).

According to the Investment Theory, motivation is "the driving force or incentive that leads someone to action. Basically, it's the nature and strength of your desire to engage in an activity" (Sternberg & Lubart, 1995, p. 236). There are two types of motivation: extrinsic motivation and intrinsic motivation. Extrinsic motivation refers to the motivators other than the task itself. An individual motivated through extrinsic means gain nothing directly connected to what the person is working on at the moment. For example, a child who makes his own bed in the morning and does gardening every

weekend to earn money is extrinsically motivated. In contrast, intrinsic motivation occurs when the work itself serves as the motivation factor. Individuals who work on a task because of pure enjoyment of said task, personal satisfaction, or the meaning of the work are motivated intrinsically. Intrinsic motivation is most important for creativity according to the Investment Theory because it keeps a person focused on the task (Sternberg & Lubart, 1995). Many researchers find support in their studies that intrinsic motivation is conducive to creativity (Collins & Amabile, 1999; Rolen, 1995).

Intrinsic motivation is often linked with creativity, yet extrinsic motivation can also facilitate creative work. According to Collins and Amabile (1999), extrinsic motivators can be divided into two types: synergistic and non-synergistic. The former refers to motivators which "provide information or enable the person to better complete the task and which can act in concert with intrinsic motives" (Collins & Amabile, 1999, p. 304). The latter "lead[s] the person to feel controlled and are incompatible with intrinsic motives" (Collins & Amabile, 1999, p. 304).

Synergistic extrinsic motivators can facilitate intrinsic motivation to promote creativity (Collins & Amabile, 1999). For example, parents using reward and feedback to recognize a child's competence by providing important information on further improvement utilize synergic extrinsic motivation. These actions positively contribute to creativity by compensating for the lack of intrinsic motivators in the stage of work that requires less novelty, such as the evaluation and validation stage (Collins & Amabile, 1999; Torrance, 1963). Deadlines and the promise of rewards are less likely to hurt during the evaluation stage of a project, and may help keep the creator involved in the work (Collins & Amabile, 1999).

The Investment Theory supports that "intrinsic and extrinsic motivation are often highly interactive, and can work together rather than in opposition to each other" (Sternberg & Lubart, 1995, p. 243). These motivational conditions proposed in the Investment Theory overlap with and relate to what is supported in many empirical studies in the field of creativity. These conditions include having a driving absorption, having discipline and commitment to one's work, having high intrinsic motivation, and being task-focused (Tardif & Sternberg, 1988).

Environment

According to Investment Theory, the environment influences how creative one can be. An environment that feels relaxing and cheerful and rich in cues can facilitate creativity. Task constraints impact individuals by either restricting or promoting creativity. If one has low previous knowledge with a task, the act of giving a few rules and limits can help and inspire creativity. However, if the task is already very familiar, extra information and limits may make the task too easy thereby reducing creativity. "In any case, helping individuals realize the extent of their freedom to create is likely to facilitate creativity, whereas impinging on this freedom is likely to impede creativity" (p. 259). The Investment Theory suggests that evaluation perceived as threatening can harm creativity. However, if one knows the criteria of the evaluation in advance, the individual is more likely to be creative.

Competition can impact creativity in a multitude of fashions. Competition inspires pressure. An appropriate amount of pressure can boost creativity, but too much pressure may interfere with creativity. The amount of pressure one feels depends on the difficulty of the task and one's arousal level in accomplishing the task. Cooperation also

has contradictory effects. One needs different kinds of cooperation and support from others to fully develop a creative idea into a complete production. However, the Investment Theory suggests that "members of a professional group will accept and support work only if it conforms to the group's norms" (p. 264). If a group shows a strong wish to cooperate, one's idea may not be highly creative because "when highly creative people seek to ignore or violate the norms of their peer groups, they may find these groups to be distinctly non-cooperative" (p. 265).

Home climate also influences creativity. Home climate that fosters independency and intellectual development promotes creativity. Parents can serve as creative role models allowing children to observe and imitate them helping children to develop creativity.

The school environment also influences student creativity. In order to promote student creativity, teachers need to value creative personal attributes in students and model creativity for their students. When the environment favors test scores and memorization of facts, it is likely doing so and neglecting the creative use of knowledge. Regardless of all the internal resources a person may have, an individual must also function within an environment that is either supportive or not of the development of his or her creativity. Actions are defined within a context, and the creativity of a person is thusly evaluated within that context (Sternberg, 2006). To inspire students to think creatively, schools need faculty to be actively involved in their work in ways that generate novel and suitable approaches (Shalley & Gilson, 2004).

Summary

Chapter Two began by exploring a variety of creativity definitions. This review of literature revealed that most definitions have overlapping values (Starko, 2010) coinciding with and supporting Sternberg and Lubart's definition of creativity as novel and appropriate work. The review next explored the role of intelligence and learning with creativity. The research supported that creativity is something all individuals are capable of displaying, which creates the space for the question of why not all individuals do.

The review of literature next presented writings on the 21st century needs for creativity highlighting research that established the personal and societal benefits of creativity. Schooling has been slow to change focus from an industrial age perspective to those of the 21st century. 21st century education necessitates constructivist learning opportunities that allow learners to both manipulate and use procedural knowledge rather than simply store knowledge and facts (Makel, 2009). Many schools present learning opportunities with barriers to growing creativity. In fact, while many teachers express interest in creativity, findings show many have little tolerance for manifestations of creativity in their classrooms (Andiliou & Murphy, 2010; Beghetto & Plucker, 2006; Chappel, 2007; Fleith, 2000; Runco, 2003b; Runco & Johnson, 2002). The research identified supports the need to learn more about principal perspectives toward creativity so that the diocese can better support and train principals to provide ongoing professional development for teachers to face their implicit theories about creativity.

The Literature Review next explored ecclesial writings concerning the role of creativity in the Catholic school. Church writings generally supported the perspective that

schools must see students as whole and individual beings. However, it is important to note there is a lack in ecclesial writings on education for the 21st Century. The researcher included non-church documents in this section to bridge gaps in the research. The National Standards and Benchmarks for Effective Catholic Elementary and Secondary Schools show the Catholic Church's commitment to providing excellence in education to students, and indirectly highlights the need for Catholic schools to embrace 21st Century Skills.

The Literature Review examined the role of principal as primary agent of change for the promotion of creativity including an exploration the 21st Century principal, cultural leadership, and the principal's role in forming school culture. Its review of the history of the school principal demonstrates that there has been a shift in the role of principals. 21st century principals are expected to serve as instructional leaders further supporting the need for research to reveal more about principal perspectives toward creativity. The literature supported the claim that transformational leadership is necessary to develop schools supportive of creativity. Principals have an important role in deliberately shaping the culture of their schools, through "positive values and shared purpose" (Peterson & Deal, 2002, p. 30). Instructional leaders must have a clear understanding of the culture of their school and actively lead faculty and students in discussing and shifting unhealthy beliefs and practices that interfere with learning (Barth, 2002).

Chapter Two concluded with an analysis of the six resources of creativity as developed through Sternberg and Lubart's (1995) Investment Theory of Creativity. Sternberg and Lubart (1995) proposed that a creative person is an investor who "buys

ideas low" allowing him or her to "generate and promote ideas that are novel and even strange and out of fashion" (p. 2). A creative person's ideas are not usually accepted immediately, yet the creative person persists despite discouragement and resistance. While there are six resources that Sternberg and Lubart identified as contributing to creativity, it is important to note that one of them, the environment, influences how creative an individual can be. An environment that feels relaxing and cheerful could facilitate creativity whereas an environment of constraint could restrict creativity. The research supported the need for schools to environmentally support creativity. The principal of a school is ultimately involved in the establishment of the school culture making it is necessary to learn more about principal perspectives toward creativity.

CHAPTER III

METHODOLOGY

Restatement of the Purpose of the Study

In order for creativity to find space in the Catholic elementary classroom, how principals conceptualize creativity in the classroom must be understood as they ultimately create or destroy the conditions for teacher classroom creativity support or destruction (Beghetto & Plucker, 2006). Therefore, the purpose of this research was to describe Catholic elementary-school principals' perceptions about the nature of creativity, the qualities of a creative student, the classroom conditions that promote creativity, and the responsibility principals feel toward fostering creativity in the classroom.

Research Design

This study utilized a mixed-methodology design, which was deemed most appropriate because the study attempted to identify the characteristics of principals' perceptions about the nature of creativity in a school setting. Krathwohl (2009) argued that a mixed-methodology design supports the triangulation and corroboration of data as well as its development and expansion of meaning. He stated, "In many cases only mixed methods can provide the optimal combination required for the powerful development of evidence and an explanation that will gain a consensus around the interpretation of the data" (p. 620). It was also a descriptive in nature because the study neither changed nor modified the situation under investigation nor did it intend to determine cause-and-effect relationships (Leedy & Ormand, 2005). The unit of analysis was the individual Catholic elementary school principal, and the research sought to identify their perceptions regarding creativity in the classroom.

A mixed-method design combines the unique qualities of both quantitative and qualitative research. It uses separate quantitative and qualitative methods in an effort to negate the weaknesses inherent within one method with the strengths of the other method, as well as to form a more complete understanding of the research problem (Creswell, 2012). A convergent parallel design (Creswell, 2012) was engaged by utilizing a survey instrument containing close- and open-ended questions in order to simultaneously collect both quantitative and qualitative data to analyze and interpret. This researcher valued both quantitative and qualitative data and viewed them as approximately equal sources of information in this study.

The research instrument was a self-report, anonymous, digital questionnaire. The selection of an online survey design is supported by the work of Fowler (2009), who suggested an online survey is most effective when the following factors exist: (a) the statistical data describes the relationship between the variables and population, (b) the population represents a broad geographical area, (c) the right of anonymity and confidentiality of participants are assured, and (d) the participants have access to a computer and possess the ability to complete an online survey. According to Fowler, online survey design also allows for the ease of access to participants, as well as the guarantee of their right to the confidentiality of their responses. He further maintained that the distribution and data collection of online surveys permit a more efficient administration of the instrument, at minimal cost, with the advantage of electronic systems to compile collected statistical data quickly and with accuracy.

Research Setting

The research setting consisted of the principals from parochial elementary schools located within one Northern California diocese. There are 5,224 elementary schools in the United States serving 1,309,429 students ("Catholic School Data," 2017). Catholic elementary schools are operative in all states across the United States. However, the setting for this study was limited to parochial Catholic elementary schools within one Northern California diocese. This diocese includes multiple counties containing 55 elementary schools serving a total of 16,052 students ("Department of Catholic Archdiocese of San Francisco: 2016-2017 Academic Year," 2017). The 55 schools are composed of both independent and parochial schools. This study examined the 47 parochial schools that are a part of the total 55 schools because the intention of this study was to learn only about the perspectives toward creativity in schools led by principals receiving the same administrative supports from the diocese.

Population

The population of this study consisted of currently employed, full-time, parochial Catholic elementary school principals in a Northern California diocese. The sample for this study was selected using convenience sampling in which the researcher selected participants because they were willing and able to be studied (Creswell, 2012).

This population was inclusive of both male and female as well as vowed religious and lay Catholic elementary school principals. The researcher sought a sample size of principals that was feasible and could provide sufficient data to assure validity. The administrators in this study represented a range in years of experience in both Catholic

and non-Catholic teaching and administrations, in levels of educational training, and in certification and licensing credentials.

Principals were chosen due to their role in supporting and evaluating teacher instruction at a school site as well as their responsibility to oversee the implementation of important pedagogical strategies within a school site. In the sampling process, the researcher requested approval from the University of San Francisco IRB (See Appendix E). The survey instrument was reviewed by the IRB chair and found not to require further IRB review or oversight as it was a survey designed to improve educational effectiveness. The researcher also requested (See Appendix A) and received approval from the Superintendent of the Northern California diocese (See Appendix B) for permission to collect data from principals.

Instrumentation

This study slightly modified the *Teacher's Conceptions of Creativity Questionnaire* (*TCCQ)* (Kampylis, 2010). The researcher received permission from Dr. Kampylis to utilize and modify this questionnaire for the purpose of this study (See Appendix G) and to transcribe them into an online format utilizing Google Survey (See Appendix F). The modified survey was re-named by the researcher, the *Principal's Conceptions of Creativity Questionnaire (PCCQ)*. Surveys consisted of a relatively systematic, mostly standardized approach to collecting information from individuals (Marsden & Wright, 2010). A survey instrument was selected by the researcher as best suited for the purpose of this study for its advantageous ease of use with a large sample, as well as its advantage in increasing the generalizability about the perspectives on creativity held by this population (Creswell, 2009).

The conceptual framework derived from Sternberg and Lubart's (1995) Investment Theory of Creativity served as the guide in determining how to modify the *TCCQ* in order to create the *PCCQ*. The survey questions were aligned with the research questions. Table 1 shows the correspondence between each of this investigator's research questions with the items from the *PCCQ* as well as the statistical analysis plan for quantitative survey items.

Table 1 Linkage Between Research Questions, Items on Survey Instrument, and Quantitative Item Statistical Analysis

Research Question	Research question topic	Qualitative Questions	Quantitative survey instrument item(s)	Statistical analysis of quantitative items
1	Implicit theories about creativity	5, 11, 12	14, 15, 16, 17, 18, 22, 24, 26, 27, 28, 29, 30, 35, 40, 46	Descriptive statistics (mean, mode, range), and standard deviation
2	Beliefs about characteristics of creative students	1, 3, 4, 6	19, 21, 23, 31, 32, 39	Descriptive statistics (mean, mode, range), and standard deviation
3	Classroom practices that promote creativity	2, 7, 8, 9, 13	20, 25, 33, 34, 36, 37, 38, 47, 48, 49, 50, 51, 52, 53	Descriptive statistics (mean, mode, range), and standard deviation
4	Responsibility for providing teachers with ongoing creativity training		10, 41, 42, 43, 44, 45	Descriptive statistics (mean, mode, range), and standard deviation

The *PCCQ* was divided into six parts. Part One included (a) the Introduction and welcome to the participants, (b) General directions relative to the survey, and (c) the Consent yes/no option. Participants needed to freely select the "Yes" option in order to complete the survey. The qualitative portion of the survey was placed first so that principals' responses were not influenced by the statements in the quantitative section. Part Two included two scenario examples. Respondents answered yes or no and

described why they selected that answer. Part Three included eight open-ended questions. Part Four included three items for participants to select the one answer to which they agreed or believed was true. Part Five included forty statements to be ranked on a four-point (from "strongly disagree" to "strongly agree") Likert-type scale. The final section was optional and explored demographics and background collecting information about the respondents' (a)gender, (b) age in years, (c) highest educational degree earned, (d) years of experience teaching, (e) years of experience as an administrator, (f) extra-curricular studies/hobbies, and (g) whether they would like to be informed of the study results.

Validity

The statements and questions on the *TCCQ* were tested and revised for reliability and validity by the original researchers, using recognized methods and procedures, including expert panels and pilot tests on sample participants. The *Teacher's Conception of Creativity Questionnaire* was presented to experts in the field for their review of the content, structure, and layout. After the necessary modifications, it was administered to ten teachers (seven females, and three males) in order to test out the clarity of the items, the requisite time, the suitable structure and the appropriate layout (Kampylis, 2010).

This researcher took appropriate measures to re-establish this validity and reliability by convening a panel of experts in Catholic education, Catholic school leadership, creativity, and quantitative methodology. The panelists included two current Catholic school principals not participating in the survey, two innovation and creativity specialists working in the fields of science, technology, engineering, arts, and mathematics integration, and one operations research analyst and statistician. Upon

receiving their responses and agreement to participate, the researcher provided each panelist with the survey instrument via a Google Survey link and as both a Google Doc and PDF document. This overview assured the researcher of the reliability and comprehensibility of the instrument (Creswell, 2012).

Reliability

The only modification of the *TCCQ* made by the researcher was replacing the word "teacher" with "principal". The reliability established by the original researchers was well established using recognized methods and procedures, including expert panels and pilot tests on sample participants (Kampylis, 2010). This researcher re-established this validity and reliability through the convening of the expert panel and did not need to conduct a pilot test of the *PCCQ* instrument.

Data Collection Procedures

The researcher contacted the superintendent in the Northern California diocese via email to inform her about the researcher's doctoral studies and to explore her interest in allowing the researcher to study the perceptions of her Catholic elementary school principals regarding creativity. In this email, the researcher explained the study in an attempt to obtain her permission to survey the principals in her schools (See Appendix A).

Upon the approval of the proposal by the researcher's dissertation committee as well as the survey by the Superintendent, the researcher electronically sent the survey out to all parochial elementary principals in the Northern California diocese during the Fall of 2017, in order to collect data. Among the materials sent were the Informed Consent letter (See Appendix D), which briefly explained the nature of the study and notified them of

the voluntary nature of their participation and their right not to participate, as well as the confidentiality of their responses. Principals were not asked to put their name or any particular identifiers in their answers, to complete the survey individually, and were informed that results would be reported in aggregate. Principals were invited to include their email address only if they wished to have access to the aggregated final. The survey instrument included instructions for completing it. Teachers completed the survey instrument in approximately twenty to thirty minutes. The researcher utilized two sets of reminders to encourage full participation in the study's survey. The first reminder was sent one week after the introductory email and survey link was sent. The second reminder was sent two weeks after the introductory email. Each time the researcher sent a link to the survey to expedite the request.

The researcher sought to receive a response rate of 60% or more so that her findings could be generalizable. Twenty-nine principals or 62% of the respondents completed the survey enabling the generalizability of the study's results. Data was kept in the researcher's password-protected account and was destroyed after the completion of the study.

Data Analysis

The selected research design for this study was a descriptive, mixed-methods, convergent parallel design utilizing an electronic survey instrument. Quantitative and qualitative data was collected concurrently through data sets which were prepared and analyzed independently. The data analyses used for each of the data sets, as recommended by Creswell & Plano Clark (2011), were as follows.

Upon completion of the surveys by principals, the quantitative raw data as well as data on the demographics of participants was entered into a database for analysis. Quantitative data was analyzed using descriptive statistics, including the mean, mode and standard deviation in order to determine trends in the data and patterns of distribution. Questions were divided into categories based upon Sternberg and Lubart's Investment Theory of Creativity including: (a) intellectual abilities, (b) knowledge skills, (c) thinking skills, (d) personality, (e) motivation, (f) environment. Two additional categories included: (a) principal perspective on the diocese included in this study and (b) principal self-description were also identified. Results were reported as frequency distributions and as measures of central tendency and were reported relative to all respondents (n=29). Results of demographic data were reported in appropriate tables and figures.

Qualitative data from the open-ended questions on the survey was prepared using the process of analyses suggested by Creswell (2012) and Creswell and Plano-Clark (2011). All qualitative raw data had an initial review. For each qualitative survey item, relevant text phrases were selected and highlighted in a particular color. Tallies of similar responses were conducted and codes were created to combine the similar text phrases. The researcher identified three independent coders to separately code the qualitative data and to ensure validity (Creswell, 2007). All coders were educators who did participate in the survey. Themes were then extracted from the total coded data, with a minimum of three coders agreeing on the theme representative of the codes. Frequencies of response on the themes were recorded, and the themes were examined using comparisons to scholarly literature, to other relevant qualitative data from this study, and to quantitative findings from this study.

Ethical Considerations

Prior to conducting the study, the researcher obtained notification that the study did not require approval from the University of San Francisco Institutional Review Board for the Protection of Human Subjects (IRBPHS) (See Appendix E). The background and rationale for the study, the description of the survey population and interview sample, the recruitment procedures for participation in the study, the consent process, copies of the questionnaires, description of potential risks and benefits to the participants, and the confidentiality of records were all included in the IRBPHS application.

Upon approval of the dissertation proposal by her committee, the researcher sent the superintendent of the Northern California diocese an email fully explaining the scope and intent of the research study and ensuring confidentiality of data. The superintendent's permission to proceed in her diocese was appropriately documented (See Appendix B). Acknowledgement that the researcher received approval from the IRBPHS that the study did not need review was included in this email.

There were no potential risks to the subjects. Anonymity was given in the survey and the right of confidentiality of responses was guaranteed in the survey process. There were no costs to any administrator or to his or her school for participation in the study.

Some participants may have felt pressured to participate as they work with the researcher, who is a new principal in the diocese. However, it was re-affirmed that all responses were anonymous, so the researcher could not know who had participated. All participants had the right and freedom to choose not to participate in the study without consequence. In contrast, there was potential for positive contributions to the Northern California diocese to be gained from the results of this study, as the diocese had

expressed concerned with how to better prepare its students for life in the 21st century. The outcome of this study may improve the quality of support the diocese is able to provide its principals.

The researcher provided each participant with a written statement about the survey. That statement fully explained the scope and intent of the research study and informed the administrators that participating principals' participation was strictly confidential. It also guaranteed participants the right of confidentiality of data. Responses were held in confidence and were not used in any way to identify individual participants or their schools. For this study, consent from the participants was granted by their selection of the "Yes" option on the survey, which indicated that their participation was done freely and voluntarily. After administration of the survey was complete, all files related to the study were deleted from Google Survey. The researcher encrypted all data files before uploading to the password-protected computer.

All ethical issues were highly considered in this study because, "the best a researcher can do is to be conscious of the ethical issues that pervade the research process and to examine his or her own philosophical orientation vis-a-vis these issues" (Merriam, 2009, p. 235).

Researcher's Background

The researcher has worked in education for twelve years at both the teacher and administrative levels. The child of a special education teacher, her interest in education started early and her formal education training spanned the range of kindergarten through university-level courses. She began her full-time teaching career in public school in San Francisco. She taught sixth grade math and science at Francisco Middle School for two

years before entering Catholic education at the middle school level, where she worked for six years. She most-recently began her second year as the principal of a Catholic elementary school where her focus has been the integration of creativity in the classroom.

Her undergraduate major from the University of California, Berkeley was in Education in America with a minor in Education, and she holds a Masters of Arts degree in Education from the Developmental Teacher Education Program at the University of California, Berkeley. She currently attends the University of San Francisco where she will complete her doctoral degree in Catholic Educational Leadership within the School of Education's Department of Leadership Studies with the completion of this project. Her experience and career have led her to contemplate the role creativity should play in the classroom.

Her personal mission statement is to inspire herself and others to live their fullest life possible by being moonshot thinkers who know failure can be a constructive opportunity for a new beginning. She plans to accomplish this by being a lifelong learner, modeling constructive failure for others, and challenging herself to do things she never thought she could do. This dissertation is one step bringing her closer to accomplishing this mission.

CHAPTER IV

RESULTS

Overview

The purpose of this study was to identify the beliefs that Catholic elementary school principals in a Northern California diocese held about creativity, creative students, instructional practices that promote the growth of student creativity, and the degree of responsibility they felt for supporting their teachers' creativity training. Understanding the principal perception was selected for this study because their perspectives determine the resources invested in developing and supporting faculty through post-graduate school professional development opportunities. Specifically, this study sought to describe as viewed through Sternberg and Lubart's (1995) six resources of the creative person: (a) principals' beliefs and implicit theories about creativity (b) principals' beliefs about the characteristics of creative students, (c) the classroom practices principals identify as promoting creativity in the classroom, and (d) the degree of responsibility principals believe they hold in supporting the development of creative practices at their school through ongoing creativity training at the teacher level.

The data gathered for this study analyzed the following research questions:

1. What beliefs and implicit theories about creativity do Catholic Elementary principals hold?
2. What are Catholic Elementary principals' beliefs about the characteristics of creative students?
3. What classroom practices do Catholic Elementary principals identify as promoting creativity in the classroom?

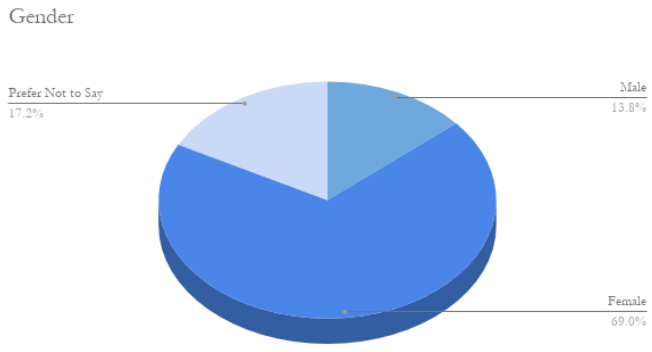
4. To what degree do Catholic Elementary principals feel responsible for providing their teachers with ongoing creativity training at their school?

Demographics

The *PCCQ* was sent electronically utilizing Google Survey to all parochial elementary principals in the Northern California diocese during the Fall of 2017, a total of forty-seven parochial principals (n= 47). Twenty-nine principals agreed to participate by answering "yes" to the first question, which asked if respondents were freely accepting to participate in the survey. The overall principal response rate for the study was 62%.

While twenty-nine principals responded to the survey, not all of them completed the demographic section of the survey. Thus, the demographic results were reported per number of respondents. Twenty-six principals selected their gender as is shown in Figure 2. Eighteen respondents were female, three were male, and five preferred not to state.

Figure 2 Gender Demographics (n=26)



The principals who chose to indicate their age (n=19) did so by selecting the range in which each individual's age fell. Principals' ages ranged from twenty-six to seventy-five. Fifty-eight percent of principals who answered were between fifty-one and

seventy-five years of age. Individual ages were reported as interval groups as expressed in Table 2.

Table 2 Respondents by Age Group

Age Group	Respondents (n=19)
26-30	1
31-35	1
36-40	3
41-45	2
46-50	1
51-55	2
56-60	1
61-65	2
66-70	5
71-75	1

Principals were also asked to indicate the number of years' experience they had in education as a teacher. Forty percent of the respondents (n=25) had ten years or less of teaching experience while twenty-four percent had twenty-one years or more of experience in the classroom. Individual years of experience were reported as interval groups as expressed in Table 3.

Table 3 Respondents by Years of Teaching Experience

Years	Respondents (n=25)
0-5	3
6-10	7
11-15	3
16-20	6
21-25	1
26-30	2
31+	3

Principals were asked to indicate the number of years' experience they had in education as an administrator. Sixty percent of the respondents (n=25) had ten years or less of administrative experience while twelve percent had twenty-one years or more of

administrative experience. Individual years of experience were reported as interval groups as expressed in Table 4.

Table 4 Respondents by Years of Teaching Experience

Years	Respondents (n=25)
0-5	32
6-10	28
11-15	16
16-20	12
21-25	0
26-30	8
31+	4

The principals who responded to the survey had all earned graduate degrees of some kind. Ninety-six percent of respondents (n=25) held at least one master's degree while only one principal held a doctoral degree. Table 5 shows the data relative to respondents' level of education.

Table 5 Respondents by Highest Level of Education

Highest Level of Education	Respondents (n=25)
BA/BS	0
MA/MS	24
Doctoral	1

Summary of Demographic Variables

Not all of the principals who participated in this study completed the demographic section of the survey. As such, the number of principals who responded to the demographic portion of the survey varied from the number of principals who responded to the questions related to the study's research questions (n=29). The principals who responded to the demographic portion of this survey were predominantly female (69%) and between the ages of fifty-one and seventy-five (58%). Most of the respondents were veteran teachers who had eleven or more years of teaching experience (60%). Many,

however, were fairly new principals with five or less years of administrative experience (32%). The majority (60%) of principals had between 0-10 years of administrative experience with twelve percent having twenty-one or more years of administrative experience. Nearly all of the principals who responded (96%) had earned at least a master's degree.

Data Analysis

The selected research design for this study was a descriptive, mixed-methods, convergent parallel design. As such, both qualitative and quantitative data were collected concurrently through data sets that were prepared and analyzed independently. Table 6 reflects the link between research questions, items on the survey, and analysis. The data analysis used for each of the data set, as recommended by Creswell and Plano Clark (2011), are described here.

Table 6 Linkage Between Research Questions, Items on Survey Instrument, and Quantitative Item Analysis

Research Question	Research question topic	Qualitative Questions	Quantitative survey instrument item(s)	Statistical analysis of quantitative items
1	Implicit theories about creativity	5	11, 12, 14, 15, 16, 17, 18, 22, 24, 26, 27, 28, 29, 30, 35, 40, 46	Descriptive statistics (mean, mode, range) and standard deviation
2	Beliefs about characteristics of creative students	1, 3, 4, 6	19, 21, 23, 31, 32, 39	Descriptive statistics (mean, mode, range) and standard deviation
3	Classroom practices that promote creativity	2, 7, 8, 9	13, 20, 25, 33, 34, 36, 37, 38, 47, 48, 49, 50, 51, 52, 53	Descriptive statistics (mean, mode, range) and standard deviation
4	Responsibility for providing teachers with ongoing creativity training		10, 41, 42, 43, 44, 45	Descriptive statistics (mean, mode, range) and standard deviation

Quantitative Analysis

Upon completion of the surveys by principals, the quantitative raw data as well as data on the demographics of participants was entered into a database for analysis. Quantitative data was analyzed using descriptive statistics, including the mean, mode, and standard deviation in order to determine trends in the data and patterns of distribution. Questions were divided into categories within each research question based upon connection to Sternberg and Lubart's Investment Theory of Creativity including: (a) intellectual abilities, (b) knowledge skills, (c) thinking skills, (d) personality, (e) motivation, and (f) environment. Two additional categories identified included: (a) principal perspective on the diocese included in this study and (b) principal self-description. Table 7 shows the breakdown of questions. Results were reported as frequency distributions and as measures of central tendency and were reported relative to all respondents (n=29). Results of demographic data were reported in appropriate tables and figures.

Table 7 Linkage Between Research Questions, Items on Survey Instrument, and Analysis Theme

	Question 1: Implicit theories about creativity	Question 2: Beliefs about Characteristics of Creative Students	Question 3: Classroom practices that promote creativity	Question 4: Responsibility for providing teachers with ongoing creativity training
Intellectual	14, 26, 40	31		
Knowledge	16, 17, 24			
Thinking	22	23		
Personality	18, 27, 29, 30	19, 21		
Motivation	28, 35	39		
Environment	15, 46	32	20, 25, 33, 34, 36, 37, 38, 49, 50, 51, 52, 53	
Diocese			47, 48	
Self-description				41, 42, 43, 44, 45

Results are presented by research question in the finding section below.

Qualitative Analysis

Qualitative data from open-ended questions on the survey was prepared using the process of analysis suggested by Creswell (2012) and Creswell and Plano-Clark (2011). All qualitative raw data was initially read over. For each qualitative survey item (items 1-10), relevant segmented text phrases were selected and highlighted in a particular color. Tallies of similar responses were conducted and codes were created to combine the similar segmented text phrases. Three other coders separately coded the qualitative data to ensure validity (Creswell, 2007). Themes were then extracted from the total coded data, with a minimum of three coders agreeing on the theme representative of the codes. Frequencies of response on the themes was recorded, and the themes were examined using comparisons to scholarly literature, to other relevant qualitative data from this study, and to quantitative findings from this study.

The findings of these qualitative and quantitative data analysis are presented by research question and begin first with qualitative data.

Research Question 1

What beliefs and implicit theories about creativity do Catholic Elementary principals hold?

Principal responses to qualitative survey item 5 were used to answer research question 1 on beliefs and implicit theories about creativity. The open-ended survey items allowed participants to write short answer responses in their own words. Survey item 5 asked, "How do you define creativity?" Twenty-nine participants responded to this survey item. Participant responses were carefully coded and analyzed to extract themes. Eight themes were extracted from the data on survey item 5 as shown in Table 8.

Table 8 Principals' Definition of Creativity: Survey Item 5 (n=29)

Creativity Involves…	n	% Agreement
Product	19	66%
Originality	14	56%
Perseverance	10	34%
Self-Awareness	7	24%
Freedom	4	14%
Divergent Thinking	4	14%
Self-expression	3	10%
Imagination	3	10%

The theme of *product* creation most strongly emerged, with a majority of sixty-six percent of principal responses indicating this theme in one way or another. Another theme that strongly emerged was that of *originality*, with fifty-six percent of principal responses indicating this theme. Thirty-four percent of responses included the need for *perseverance* in the definition of creativity. Other themes that emerged from principal responses for a definition of creativity included: *self-awareness* (24%), *freedom* (14%), *divergent thinking* (14%), *self-expression* (10%) and *imagination* (10%).

Some quotes of principal responses to survey item 5 included:

On the theme of *product*:

- "Solutions and products that are different than the ordinary."
- "New insights leading to new ideas, new processes, or new products."
- "A new thing that will impact the world positively."

On the theme of *originality*:

- "To think outside of the box."
- "A new way that has never been thought of before."
- "To perceive the world in new ways."

On the theme of *perseverance*:

- "A willingness to push the envelope, ready to fail and try again."
- "…overcome fear to make a new idea or product."
- "…have the strength to express differing ideas."

On the theme of *self-awareness*:

- "Creativity is the moment you feel you are living your life to the fullest, as the authentic version of yourself."
- "…pursue passions."

On the theme of *freedom*:

- "Ability to do what you choose without any parameters."

On the theme of *divergent thinking*:

- "The ability to see many possibilities and explore them all."

On the theme of *self-expression*:

- "The ability to express oneself in ways that get ideas across."

On the theme of *imagination*:

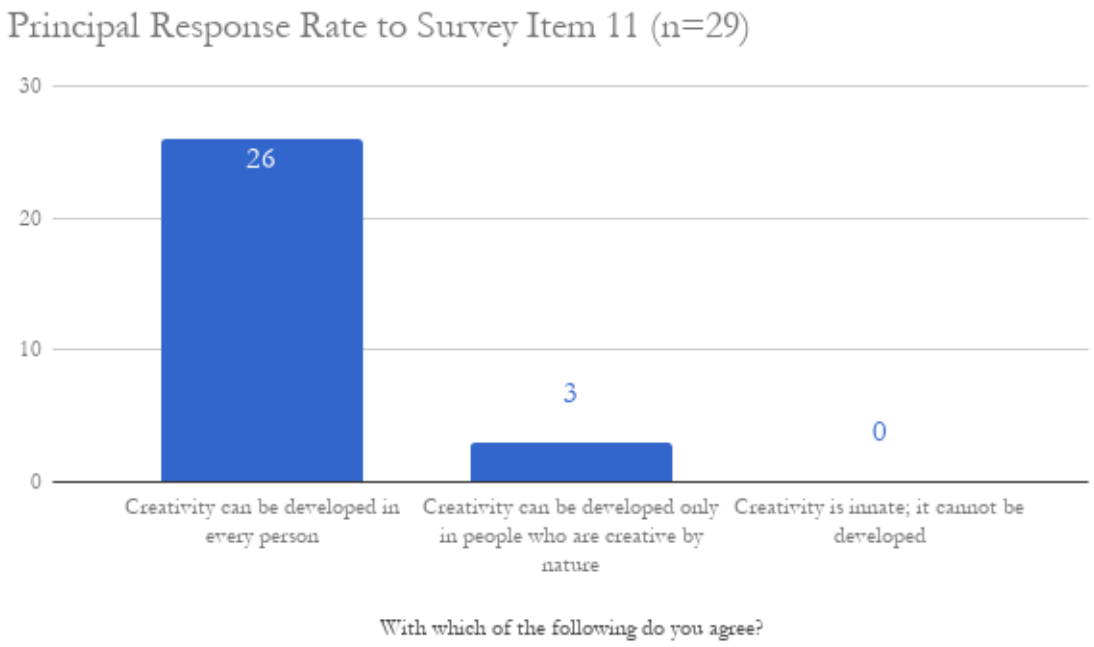
- "Creativity is the ability to turn imagination into reality."

Principal responses ranged from as little as a few words to as long as several sentences.

Principals were also asked to address to survey items that provided three to four statements. Respondents selected the one statement for each of these survey items to which they agreed the most. Item 11 provided principals with three statements: (a) creativity can be developed in every person, (b) creativity can be developed only in people who are creative by nature, and (c) creativity is innate; it cannot be developed. Figure 3 shows principal responses. A majority (90%) of principals most agreed that creativity could be developed in every person. The remainder of principals (10%) agreed

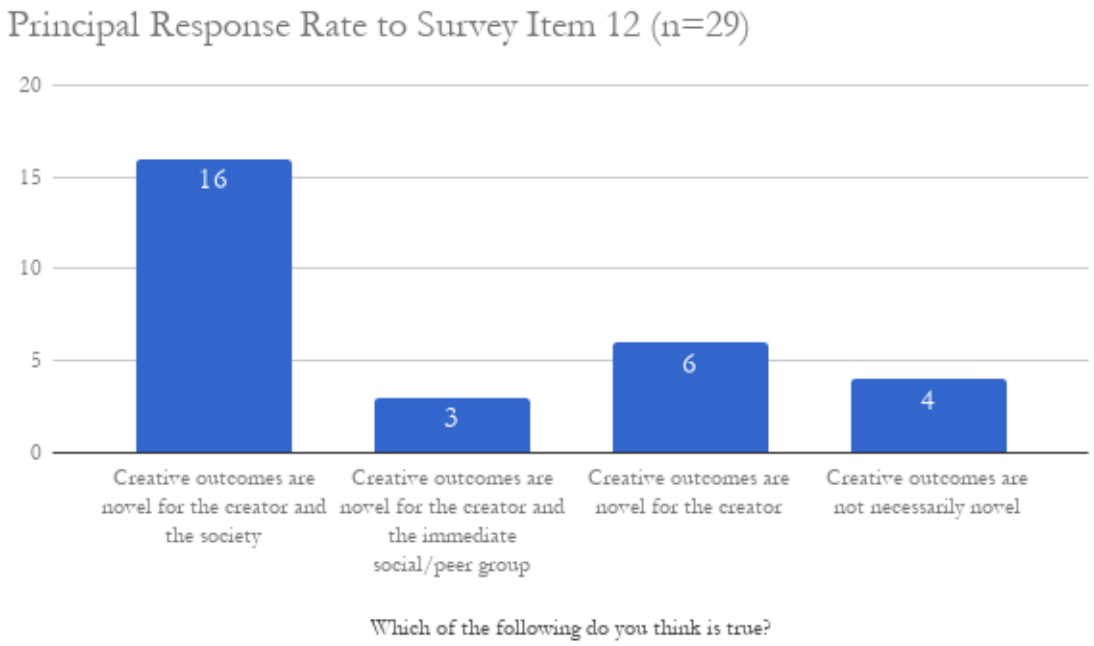
most that creativity could only be developed in people who were creative by nature. No principals agreed that creativity was innate and could not be developed.

Figure 3 Survey Item 11 Responses to Creativity Development



Principals were asked to select the one statement to which they agreed the most for item 12. This item provided principals with four statements: (a) creative outcomes are novel for the creator and the society, (b) creative outcomes are novel for the creator and the immediate social/peer group, (c) creative outcomes are novel for the creator, (d) creative outcomes are not necessarily novel. Figure 4 shows principal responses. Just over half of the principals (55%) agreed that creative outcomes were novel for both the creator and society. Twenty-one percent of principals agreed with the statement that creativity only needed to be novel for the creator. The remaining principals were nearly split between agreeing that creative outcomes were not necessarily novel (14%) and that they were novel for the creator and his or her immediate social/peer group (10%).

Figure 4 Survey Item 12 Novelty



Principal responses to quantitative survey items 14, 26, and 40 were associated with intellectual abilities related to the beliefs and implicit theories about creativity held by principals in the Northern California diocese included in this study. All participants (n=29) answered these questions. Quantitative survey item 14 stated, "People can recognize and often agree on creative outcomes, even when they offer different definitions for creativity." One hundred percent of principals indicated that they strongly agreed or agreed with this statement. Quantitative survey item 26 stated, "A creative outcome is more a result of hard work and continuous work and less a result of insight." A majority at sixty-six percent of principals (n=19) indicated they disagreed or strongly disagreed with this statement, and the response that was indicated most often was strongly disagree. Finally, quantitative survey item 40 stated, "Creativity can be taught." A majority at ninety-three percent of principals (n=27) indicated that they strongly agreed

or agreed with this statement. Table 9 and Table 10 show descriptive data, including frequencies, mean, mode, and range for survey items 14, 26, and 40.

Table 9 Frequency of Respondents' Ratings of Survey Items 14, 26, and 40

Quality	Rating			
	1	2	3	4
People can recognize and often agree on creative outcomes, even when they offer different definitions for creativity	0	0	19	10
A creative outcome is more a result of hard work and continuous work and less a result of insight	10	9	8	2
Creativity can be taught	1	1	18	9

Table 10 Frequency of Respondents' Ratings of Survey Items 14, 26, and 40

Quality	*M*	Mode	*SD*	Min.	Max.
People can recognize and often agree on creative outcomes, even when they offer different definitions for creativity	3.34	3	0.48	3	4
A creative outcome is more a result of hard work and continuous work and less a result of insight	3.38	2	0.87	1	4
Creativity can be taught	3.17	3	0.66	1	4

Principal responses to quantitative survey items 16, 17, and 24 were associated with the knowledge factor in understanding the beliefs and implicit theories about creativity held by principals in the Northern California diocese included in this study. All participants (n=29) answered these questions. Quantitative survey item 16 stated, "There is a positive link between creativity and intelligence." Results for this question were nearly split with fifty-two percent (n=15) indicating that they agreed or strongly agreed with this statement and forty-eight percent (n=14) indicating that they disagreed or strongly disagreed. Quantitative survey item 17 stated, "It is possible for a very intelligent person not to be creative." A majority at seventy-nine percent of principals (n=23) indicated they agreed or strongly agreed with this statement, and the response that was indicated most often was strongly agree. Quantitative survey item 24 stated, "A person must have prior knowledge in a domain in order to manifest creativity."

Conversely to item 17, a majority at eighty-three percent of principals (n=24) indicated they disagreed or strongly disagreed with item 24. Table 11 and Table 12 show descriptive data, including frequencies, mean, mode, and range for survey items 16, 17 and 24.

Table 11 Frequency of Respondents' Ratings of Survey Items 16, 17, and 24

	Rating			
Quality	1	2	3	4
There is a positive link between creativity and intelligence	4	10	9	6
It is possible for a very intelligent person not to be creative	2	4	10	13
A person must have prior knowledge in a domain in order to manifest creativity	7	17	5	0

Table 12 Frequency of Respondents' Ratings of Survey Items 16, 17, and 24

Quality	*M*	Mode	*SD*	Min.	Max.
There is a positive link between creativity and intelligence	2.45	2	0.91	1	4
It is possible for a very intelligent person not to be creative	3.31	4	0.89	1	4
A person must have prior knowledge in a domain in order to manifest creativity	2.00	2	0.60	1	3

Principal responses to quantitative survey item 22 were associated with the thinking factor in understanding the beliefs and implicit theories about creativity held by principals in the Northern California diocese included in this study. All participants (n=29) answered these questions. Quantitative survey item 22 stated, "Problem finding is more creative than problem solving." A slight majority of fifty-five percent (n=16) indicated that they disagreed or strongly disagreed while forty-five percent (n=13) indicated that they agreed or strongly agreed with this statement. The answer appearing most often was disagree. Table 13 and Table 14 show descriptive data, including the frequency, mean, mode, and range for survey item 22.

Table 13 Frequency of Respondents' Ratings of Survey Item 22

	Rating			
Quality	1	2	3	4
Problem finding is more creative than problem solving	5	11	10	3

Table 14 Frequency of Respondents' Ratings of Survey Item 22

Quality	*M*	Mode	*SD*	Min.	Max.
Problem finding is more creative than problem solving	2.28	2	0.92	1	4

Principal responses to quantitative survey items 18, 27 and 29 were associated with the personality factor in understanding the beliefs and implicit theories about creativity held by principals in the Northern California diocese included in this study. All participants (n=29) answered these questions. Quantitative survey item 18 stated, "There is a link between creativity and humor." Results for this question were nearly split with fifty-two percent (n=15) indicating they disagreed or strongly disagreed with this statement and forty-eight percent (n=14) indicating they agreed or strongly agreed. The responses indicated most often were equally split between both disagree and agree. Quantitative survey item 27 stated, "Creativity is a key factor for social and personal evolution." A majority at ninety percent of principals (n=26) indicated they agreed or strongly agreed with this statement. Quantitative survey item 29 stated, "Creativity is a characteristic of all students and it is not a rare phenomenon." Similar to item 27, a majority at eighty-six percent of principals (n=25) indicated they agreed or strongly agreed with this statement, and the answer indicated most often was strongly agree. Table 15 and Table 16 show descriptive data, including frequencies, mean, mode, and range for survey items 18, 27 and 29.

Table 15 Frequency of Respondents' Ratings of Survey Items 18. 27, and 29

	Rating			
Quality	1	2	3	4
There is a link between creativity and humor	4	11	11	3
Creativity is a key factor for social and personal evolution	0	3	12	14
Creativity is a characteristic of all students and it is not a rare phenomenon	1	3	10	15

Table 16 Frequency of Respondents' Ratings of Survey Items 18, 27, and 29

Quality	*M*	Mode	*SD*	Min.	Max.
There is a link between creativity and humor	2.48	2 & 3	0.83	1	4
Creativity is a key factor for social and personal evolution	3.38	4	0.68	2	4
Creativity is a characteristic of all students and it is not a rare phenomenon	3.38	4	0.82	1	4

Principal responses to quantitative survey items 28, 30, and 35 were associated with the motivation factor in understanding the beliefs and implicit theories about creativity held by principals in the Northern California diocese included in this study. All participants (n=29) answered these questions. Quantitative survey item 28 stated, "Intrinsic motivation is more important than external factors in creativity." Overwhelmingly, a majority at ninety percent of principals (n=26) indicated they agreed or strongly agreed with this statement. Quantitative survey item 35 stated, "Students are more creative when they feel intrinsically motivated." Survey item 30 was a small variation on item 35 stating "some" instead of all students. No difference between survey items 30 and 35 existed with a majority at eighty-three percent of principals (n=24) indicating they agreed or strongly agreed with this statement. The answer indicated most often for both was agree. Table 17 and Table 18 show descriptive data, including frequencies, mean, mode, and range for survey items 28, 30 and 35.

Table 17 Frequency of Respondents' Ratings of Survey Items 28, 30, and 35

	Rating			
Quality	1	2	3	4
Intrinsic motivation is more important than external factors in creativity	0	3	10	16
Students are more creative when they feel intrinsically motivated	0	5	17	7
Some students are more creative when they feel intrinsically motivated	0	5	17	7

Table 18 Frequency of Respondents' Ratings of Survey Items 28, 30, and 35

Quality	*M*	Mode	*SD*	Min.	Max.
Intrinsic motivation is more important than external factors in creativity	3.38	4	0.68	2	4
Students are more creative when they feel intrinsically motivated	3.07	3	0.70	2	4
Some students are more creative when they feel intrinsically motivated	3.07	3	0.70	2	4

Principal responses to quantitative survey items 15 and 46 were associated with environment factors that were a part of the beliefs and implicit theories about creativity held by principals in the Northern California diocese included in this study. All participants (n=29) answered these questions. Quantitative survey item 15 stated, "Social and environmental factors influence creative performance." A majority at ninety percent of principals (n=23) indicated they strongly agreed or agreed with this statement. Quantitative survey item 46 stated, "The school is the best environment for students to manifest their creativity." Conversely to item 15, a majority at fifty-nine percent of principals (n=17) indicated they disagreed or strongly disagreed with this statement, and the response that was indicated most often was strongly disagree. Table 19 and Table 20 show descriptive data, including frequencies, mean, mode, and range for survey items 15 and 46.

Table 19 Frequency of Respondents' Ratings of Survey Items 15 and 46

	Rating			
Quality	1	2	3	4
Social and environmental factors influence creative performance	0	3	15	11
The school is the best environment for students to manifest their creativity	11	6	9	3

Table 20 Frequency of Respondents' Ratings of Survey Items 15 and 46

Quality	*M*	Mode	*SD*	Min.	Max.
Social and environmental factors influence creative performance	3.38	3	0.56	2	4
The school is the best environment for students to manifest their creativity	2.21	1 &3	1.05	1	4

Summary of Results: Research Question 1

Table 21 reviews the themes identified in survey item 5, the only qualitative survey item for research question 1.

Table 21 Principals' Definition of Creativity: Survey Item 5 (n=29)

Creativity Involves…	n	% Agreement
Product	19	66%
Originality	14	56%
Perseverance	10	34%
Self-Awareness	7	24%
Freedom	4	14%
Divergent Thinking	4	14%
Self-expression	3	10%
Imagination	3	10%

The responses to qualitative survey item 5, "How do you define creativity?", indicated that creation of a functioning product was an essential component of the act of creativity for principals in this survey. Respondents shared that *originality* was necessary in either the end product or the process of getting to said end product. The theme of *perseverance* also emerged highlighting the necessity of having strength to share new ideas and being willing to keep working when faced with failure.

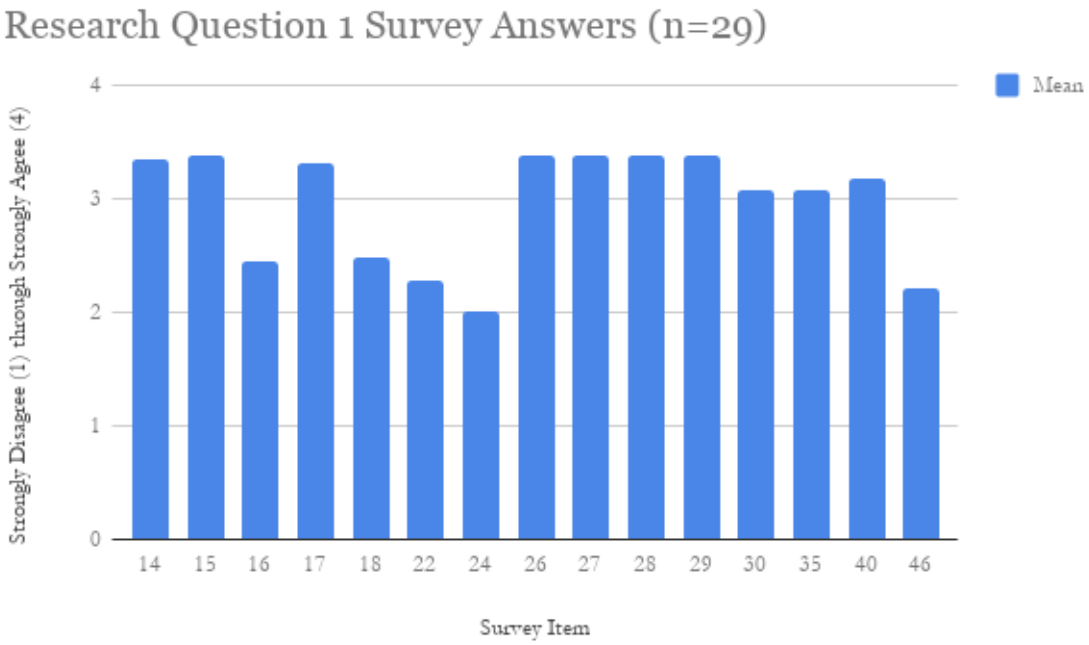
Principals also included *self-awareness* as an element in creativity stating the need to pursue passions to insight interests in work. Some principals mentioned the need to have *freedom* in order to be creative. *Divergent thinking* was mentioned as well, highlighting the importance of seeing many possibilities before selecting one path to which to commit. The theme of *self-expression* included the ability to share one's ideas in effective fashions. Finally, some principals mentioned the need for *imagination* in the creative process.

Principal responses to survey item 11 demonstrated a strong majority of principals agreed that creativity could be developed. Survey item 12 reflected that just over half (55%) of principals believed that an outcome needed to be creative to both the creator and society in order to be considered creative. Approximately one fifth of principals (21%) believed that the outcome only needed to be novel to the creator. Fourteen percent of principals did not believe novelty of outcome was essential for creativity, and ten percent believed novelty needed to be recognized by the creator and his or her peer group.

Quantitative survey questions for research question 1 were grouped by relation to the Investment Theory of Creativity elements. Data from survey items 14, 26, and 40 were used to understand the intelligence factors. They indicated that a majority of principals believed creativity could be taught. They also believed individuals with different definitions for creativity could still recognize and agree on creative outcomes. Principals also agreed that creativity was more a result of insight than effort. Data from survey items 16, 17, and 24 was used to explore the role of the knowledge factor. Responses indicated that while there was a nearly equal split on whether a link between

creativity and intelligence existed, a majority of principals believed that a very intelligent person may not necessarily be creative. A large majority of principals indicated that knowledge in a particular domain was not necessary for an individual to manifest creativity. Data from survey item 22 was used to explore the thinking factor. It indicated that principals were split between how creative problem finding versus problem solving was. Survey items 18, 27, 29, and 30 were used to explore the role of the personality factor. They indicated that a majority of principals believed creativity to be a key factor for both social and personal evolution. Principals identified that creativity could be increased through intrinsic motivation, but that creativity was not a rare phenomenon and was a characteristic of all students. Data from survey items 28, 30, and 35 was used to explore the role of the motivation factor indicating that a majority of principals believed intrinsic motivation was more important than external motivation and that creativity was increased through intrinsic motivation. Survey items 15 and 46 were used to explore the environment factors and indicated that a majority of principals believed creative performance was influenced by environmental factors. The majority of principals identified that school was not the best environment for students to manifest their creativity. The mean score for each survey item relating to Research Question 1 is reflected in Figure 5.

Figure 5 Research Question 1 Mean Survey Answers



Research Question 2

What are Catholic Elementary principals' beliefs about the characteristics of creative students?

Some open-ended survey items allowed participants to select yes or no and write a short answer response in his or her own words. Survey item 1 stated, "A student discovers a new way to add three-digit numbers, but the strategy does not lead to the correct solution." It then asked, "Would you consider this student creative?" Twenty-nine participants responded to this survey item. Twenty-one participants (72%) stated that the student described was creative, whereas eight (28%) stated that the student described was not creative. Table 22 shows the five themes extracted from the data from survey item 1.

Table 22 Themes Extracted from Survey Item 1 Responses (n=29)

Creativity Involves…	Yes n=21	Yes % Agreement	No N=8	No % Agreement	All n=29	Total % Agreement
Originality	14	67%	0	0%	14	48%
Perseverance	9	43%	0	0%	9	31%
Product	0	0%	7	88%	7	24%
Self-Awareness	7	33%	0	0%	7	24%
Freedom	5	24%	0	0%	5	17%

Of those who stated the student in the scenario was creative, the theme of *originality* most strongly emerged, with a majority (67%) of principal responses indicating this theme in one way or another. Another theme strongly emerging was that of *perseverance,* with forty-three percent of principal responses indicating this theme. Other themes that emerged from principal responses justifying why respondents indicated that the student in the scenario was creative included: *self-awareness* (33%) and *freedom* (24%). Of the eight principals who stated the student in the scenario was not creative, only one theme emerged. Eighty-eight percent of the respondents in this category identified the lack of a working *product* as the reasoning for their answer.

Some quotes of principal responses to survey item 1 included:

On the theme of *originality*:

- "New way to look at a problem."
- "There are different ways of solving problems, and this solution could be almost there and unlike anything else ever attempted before."

On the theme of *perseverance*:

- "A creative student will keep working to identify new strategies that help them find the answer. They won't give up."

On the theme of *product*:

- "It's only creative if it is different and it finds an effective solution."

- "It needs to work to accomplish the task at hand, solving the problem correctly."

On the theme of *self-awareness*:

- "This student knows him or herself as a learner and may be attempting to process the strategies into a new fashion that makes sense to him or her."

On the theme of *freedom*:

- "The student may not have answered this problem correctly yet, but having the freedom to conceive a new path may lead to great discovery."

Principal responses ranged from as little as a few words to as long as several sentences.

Survey item 3 asked, "Can you define one or more traits of a creative student?" Twenty-nine participants responded to this survey item. Eight themes were extracted from the data on Survey item 3 (see Table 23). The theme of *curiosity* most strongly

Table 23 Principals' Definition of Traits of a Creative Student Survey Item 3 (n=29)

Creativity Involves…	n	% Agreement
Curiosity	19	66%
Originality	14	48%
Divergent Thinking	11	38%
Self-expression	9	31%
Perseverance	9	31%
Motivation	4	14%
Imagination	4	14%
Self-Awareness	4	14%

emerged, with a majority of sixty-six percent of principal responses indicating this theme in one way or another. Another theme to strongly emerge was that of *originality* with forty-eight percent of principal responses indicating this theme. Thirty-eight percent of responses included the existence of *divergent thinking* as a creative trait. Other themes that emerged from principal responses to the traits of a creative student included: *self-*

expression (31%), *perseverance* (31%), *motivation* (14%), *imagination* (14%) and *self-awareness* (14%).

Some quotes of principal responses to survey item 3 include:

On the theme of *curiosity*:

- "Sees questions others don't"
- "Asks questions and is inquisitive."

On the theme of *originality*:

- "Thinks with different perspectives in mind."
- "Thinks outside of the box."

On the theme of *divergent thinking*:

- "Thinks of as many possibilities as possible, using emotional, cognitive, divergent, and sense-based thinking."
- "Has an intuition for what ideas to follow/explore."

On the theme of *self-expression*:

- "Is able to convince others that his/her ideas are creative and effective."

On the theme of *perseverance*:

- "Persistent in the face of failure."
- "Courageous to keep going."
- "Deal with failure."

On the theme of *motivation*:

- "Engaged and motivated."

On the theme of *imagination*:

- "Has a great imagination."

On the theme of *self-awareness*:

- "Is self-actualized."
- "Active and responsive exploration of his or her environment: aware of all things including self."
- "Knows his limits, and keeps working anyway."

Principal responses ranged from as little as a few words to as long as several sentences.

Survey item 4 asked, "Can you define one or more abilities or skills of a creative student?" Twenty-nine participants responded to this survey item. Seven themes were extracted from the data on Survey item 4 (see Table 24).

Table 24 Principals' Definition of Traits of a Creative Student Survey Item 4 (n=29)

Creativity Involves…	n	% Agreement
Originality	23	79%
Curiosity	17	59%
Perseverance	11	38%
Divergent Thinking	7	24%
Artistic Ability	6	21%
Self-expression	4	14%
Flexibility	4	14%

The theme of *originality* most strongly emerged, with a majority of seventy-nine percent of principal responses indicating this theme in one way or another. Another theme to strongly emerge was that of *curiosity* with fifty-nine percent of principal responses indicating this theme. Thirty-eight percent of responses included the existence of *perseverance* as an ability exhibited by creative students. Other themes that emerged from principal responses to the abilities of a creative student included: *divergent thinking* (24%), *artistic ability* (21%), *self-expression* (14%), and *flexibility* (14%).

Some quotes of principal responses to survey item 4 include:

On the theme of *originality*:

- "Use unusual methods and resources to solve a problem."
- "See possibilities where others see obstacles."
- "Generates new ideas."

On the theme of *curiosity*:

- "Is curious."
- "Learns from questions to create something new."

On the theme of *perseverance*:

- "Confident."
- "Not as concerned about peer pressure."
- "Deals with harsh criticism well."

On the theme of *divergent thinking*:

- "Incorporates many considerations into thinking."

On the theme of *artistic ability*:

- "Is an excellent artist."

On the theme of *self-expression*:

- "Is expressive."
- "A creative type is willing to share what he or she thinks and feels."

On the theme of *flexibility*:

- "Is adaptable."

Principal responses ranged from as little as a few words to as long as several sentences.

Survey item 6 asked principals to "Please describe one or more examples of creativity as manifested by students." Twenty-nine participants responded to this survey item. Table 25 shows the eleven themes extracted from the data on survey item 6.

Table 25 Principals' Examples of Creativity as Manifested by Students Survey Item 6 (n=29)

Creativity Involves…	n	% Agreement
Originality	22	76%
Perseverance	11	38%
Product	8	28%
Freedom	7	24%
Divergent Thinking	7	24%
Self-expression	6	21%
Technology	4	14%
Imagination	3	10%
Motivation	3	10%
Flexibility	3	10%
Artistic Ability	3	10%

The theme of *originality* most strongly emerged, with a majority of seventy-six percent of principal responses indicating this theme in one way or another. Another theme to strongly emerge was that of *perseverance* with thirty-eight percent of principal responses indicating this theme. Other themes that emerged from principal responses to manifestations of creativity by students included: *product* (28%), *freedom* (24%), *divergent thinking* (24%), *self-expression* (21%), *technology* (14%), *imagination* (10%), *motivation* (10%), *flexibility* (10%), and *artistic ability* (10%).

Some quotes of principal responses to survey item 6 include:

On the theme of *originality*:

- "Putting a unique twist to a mundane task."
- "Using different mediums or media to represent learning."
- "Answering a question from a point of view not discussed or expected."

On the theme of *perseverance*:

- "Being unafraid to find your hypothesis is incorrect, and deciding to keep testing ideas."

On the theme of *product*:

- "Creating something that is completely brand new, or is an entirely new idea."
- "Combining thoughts and ideas to make a new reality."

On the theme of *freedom*:

- "Being allowed to follow a new investigation discovered in the process of completing a completely different project or research assignment."

On the theme of *divergent thinking*:

- "Holding multiple perspectives before deciding on one."
- "Hold multiple ideas during a brainstorm process."

On the theme of *self-expression*:

- "Being persuasive."
- "Being able to explain something in a different fashion, and then able to convince others of its' importance."

On the theme of *technology*:

- "Using Minecraft to demonstrate a social studies lesson."

On the theme of *imagination*:

- "Engaging in imaginative play."

On the theme of *motivation*:

- "Really engaging in an idea."
- "Being excited about learning for learning's sake."

On the theme of *flexibility*:

- "Being flexible and adaptable in group settings."

On the theme of *artistic ability*:

- "Write a poem, give a speech, paint a picture, rap a song, build a model, or just do something unexpected to present an idea or project."
- "Illustrate or diagram an answer."

Principal responses ranged from as little as a few words to as long as several sentences.

Principal responses to quantitative survey item 31 were associated with the intelligence factor in understanding the beliefs about the characteristics of creative students held by principals in the Northern California diocese included in this study. All participants (n=29) answered these questions. Quantitative survey item 31 stated, "The most creative students have the best grades in school." A majority at ninety-three percent of principals (n=27) indicated they disagreed or strongly disagreed with this statement. Principals most often strongly disagreed with this statement. Table 26 and Table 27 show descriptive data, including the frequency, mean, mode, and range for survey item 31.

Table 26 Frequency of Respondents' Ratings of Survey Item 31

Quality	Rating			
	1	2	3	4
The most creative students have the best grades in school	17	10	1	1

Table 27 Frequency of Respondents' Ratings of Survey Item 31

Quality	*M*	Mode	*SD*	Min.	Max.
The most creative students have the best grades in school	1.41	1	0.50	1	4

Principal responses to quantitative survey item 23 were associated with the thinking factor in understanding the beliefs about the characteristics of creative students held by principals in the Northern California diocese included in this study. All participants (n=29) answered these questions. Quantitative survey item 23 stated, "A

creative person produces a lot of questions." Eighty-three percent of principals (n=24) indicated they agreed or strongly agreed with this statement. The majority of principals agreed with this statement. Table 28 and Table 29 show descriptive data, including the frequency, mean, mode, and range for survey item 23.

Table 28 Frequency of Respondents' Ratings of Survey Item 23

	Rating			
Quality	1	2	3	4
A creative person produces a lot of questions	1	4	18	6

Table 29 Frequency of Respondents' Ratings of Survey Item 23

Quality	*M*	Mode	*SD*	Min.	Max.
A creative person produces a lot of questions	3.10	3	0.62	1	4

Principal responses to quantitative survey items 19 and 21 were associated with the personality factor in understanding the beliefs about the characteristics of creative students held by principals in the Northern California diocese included in this study. All participants (n=29) answered these questions. Quantitative survey item 19 stated, "Self-confidence is a basic characteristic of a creative person." A majority at fifty-nine percent of principals (n=17) indicated they disagreed or strongly disagreed with this statement. Quantitative survey item 21 stated, "A creative person is not afraid to make mistakes." Conversely to item 19, a majority at seventy-two percent of principals (n=21) indicated they agreed or strongly agreed with item 21. Table 30 and Table 31 show descriptive data, including frequencies, mean, mode, and range for survey items 19 and 21.

Table 30 Frequency of Respondents' Ratings of Survey Items 19 and 21

	Rating			
Quality	1	2	3	4
Self-confidence is a basic characteristic of a creative person	6	11	9	3
A creative person is not afraid to make mistakes	4	4	13	8

Table 31 Frequency of Respondents' Ratings of Survey Items 19 and 21

Quality	*M*	Mode	*SD*	Min.	Max.
Self-confidence is a basic characteristic of a creative person	2.17	2	0.89	1	4
A creative person is not afraid to make mistakes	3.03	3	0.94	1	4

Principal responses to quantitative survey item 39 were associated with the motivation factor in understanding the beliefs about the characteristics of creative students held by principals in the Northern California diocese included in this study. All participants (n=29) answered these questions. Quantitative survey item 39 stated, "A student could manifest his/her creativity in a variety of domains and in a variety of ways." All principals (n=29) indicated they agreed or strongly agreed with this statement, with a majority strongly agreeing. Table 32 and Table 33 show descriptive data, including the frequency, mean, mode, and range for survey item 39.

Table 32 Frequency of Respondents' Ratings of Survey Item 39

	Rating			
Quality	1	2	3	4
A student could manifest his/her creativity in a variety of domains and in a variety of ways	0	0	10	19

Table 33 Frequency of Respondents' Ratings of Survey Item 39

Quality	*M*	Mode	*SD*	Min.	Max.
A student could manifest his/her creativity in a variety of domains and in a variety of ways	3.69	4	0.47	3	4

Principal responses to quantitative survey item 32 were associated with the environment factor in understanding the beliefs about the characteristics of creative students held by principals in the Northern California diocese included in this study. All participants (n=29) answered these questions. Quantitative survey item 32 stated, "The

most creative students often face obstacles in school." A majority at sixty-two percent of principals (n=18) indicated they disagreed or strongly disagreed with this statement. Table 34 and Table 35 show descriptive data, including the frequency, mean, mode, and range for survey item 32.

Table 34 Frequency of Respondents' Ratings of Survey Item 32

	Rating			
Quality	1	2	3	4
The most creative students often face obstacles in school	4	14	7	4

Table 35 Frequency of Respondents' Ratings of Survey Item 32

Quality	*M*	Mode	*SD*	Min.	Max.
The most creative students often face obstacles in school	2.38	2	0.98	1	4

Summary of Results: Research Question 2

Table 36 demonstrates all themes as expressed by qualitative survey items 1, 3, 4, 6. The theme emerging most often of all survey items was *originality*. For example, the majority of principals who stated the three-digit addition scenario in item 1 was creative identified this theme in sixty-seven percent of responses. Principals identified *originality* as the second most-often mentioned theme in survey item 3 explaining that creative students asked questions other students did not see and thought with perspectives different from their peers. The theme of *originality* most strongly emerged in item 4 as principals shared their belief that creative students could generate new ideas by seeing possibilities where others saw obstacles. Finally, while describing one or more examples of creativity as manifested by students, the theme of *originality* emerged in survey item 6 including examples such as using different mediums of media to represent learning in new ways.

Table 36 Themes Expressed in Survey Items 1, 3, 4, and 6

	Survey Items					
Themes	1	3	4	6	Total	% (n=116)
Originality	14	14	23	22	73	63%
Perseverance	9	9	11	11	40	34%
Curiosity	0	19	17	0	36	31%
Divergent Thinking	0	11	7	7	25	22%
Self-expression	0	9	4	6	19	16%
Product	7	0	0	8	15	13%
Freedom	5	0	0	7	12	10%
Self-Awareness	7	4	0	0	11	9%
Motivation	0	4	0	3	7	6%
Imagination	0	4	0	3	7	6%
Flexibility	0	0	4	3	7	6%
Artistic	0	0	4	0	4	3%
Technology	0	0	0	4	4	3%

The second-most identified theme from qualitative survey items 1, 3, 4, 6 was expressed almost half as often as *originality*. *Perseverance* was a theme mentioned in survey items. In item 1, several principals explained that a creative student would work until the solution came to the correct answer. The theme of *perseverance* emerged in item 4 as principals identified creative students as confident and capable of dealing with harsh criticism. *Perseverance* also emerged in item 6 through many examples including the willingness to acknowledge a mistake, learn from it, and keep testing ideas.

Only mentioned three percent of the time less than *perseverance* was *curiosity*. The theme of *curiosity* most often emerged in item 3 in response to the question of defining one or more traits of a creative student. Principals identified *curiosity* as a theme in item 4 stating that creative students not only asked questions, but learned from questions to create something new.

Divergent thinking was mentioned twenty-five times in survey items 3, 4, and 6. Principals mentioned *divergent thinking* in item 3 explaining that creative students were

capable of seeing many different approaches to a problem and had the intuition for which ideas to follow or explore.

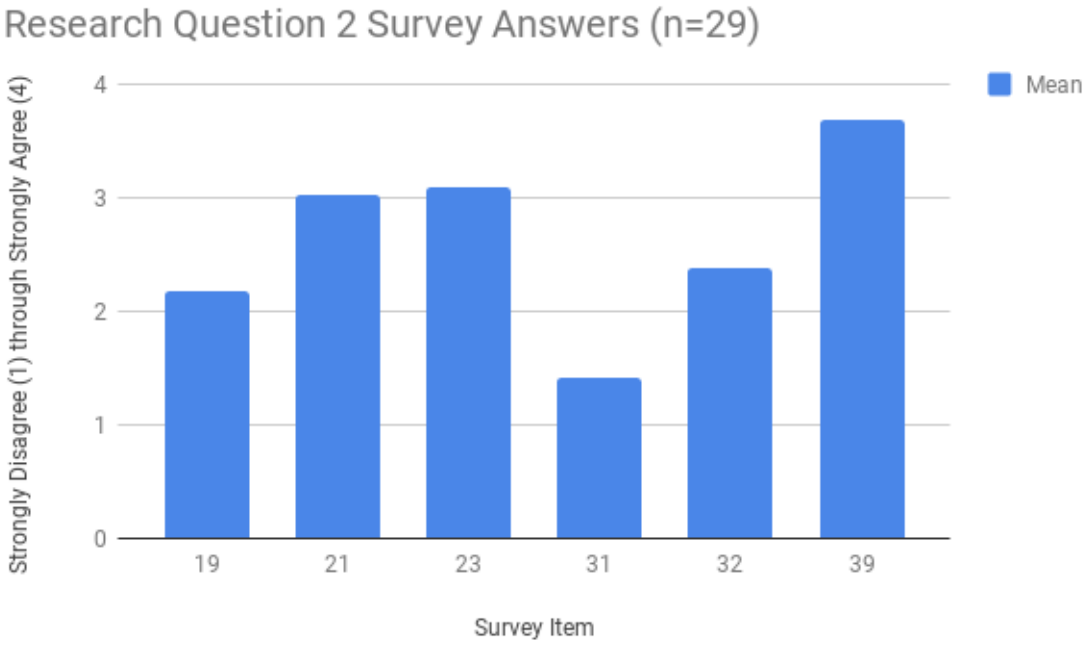
Survey item 1 also included the themes of *self-awareness*, *student freedom, and product*. Principals included the importance of *student freedom* stating that allowing for space to work through this process could lead to a great discovery. Of the principals who responded negatively to the scenario in item 1, only the theme of *product* emerged. These principals stated that creativity occurred only when it produced a working product or idea.

Survey item 3 also included the themes of *self-expression*, *imagination*, and *self-awareness*. A new theme that emerged for this set of responses was that of *motivation*. Principals shared that creative students were engaged and motivated in ways that were different than less creative peers. The theme of *artistic skills*, *self-expression* and *flexibility* arose in item 4. Principals identified creative students as flexible and adaptive. Finally, the theme of *technology* as a tool creative students could use as well as *artistic ability* emerged in item 6 as ways to express creativity.

Data from survey item 31 was associated with the intelligence factor. It indicated that a majority of principals believed creative students did not have the best grades in school. Data from survey item 23 was used to explore the thinking factor, and indicated that a majority of principals believed creative people asked a lot of questions. Data from survey items 19 and 21 was associated with the personality factor and indicated that, while a majority of principals believed self-confidence was not a basic characteristic of a creative person, they did believe a creative person was not afraid to make mistakes. Data from survey item 39 was associated with the motivation factor. It indicated that a

majority of principals believed creative students were able to manifest creativity in a variety of domains and in a variety of ways. Data from survey item 32 was associated with the environment factor. It indicated that a majority of principals did not believe most creative students faced obstacles in school often. The mean score for each survey item relating to Research Question 2 is reflected in Figure 6.

Figure 6 Research Question 2 Mean Survey Answers



Research Question 3

What classroom practices do Catholic Elementary principals identify as promoting creativity in the classroom?

Some open-ended survey items allowed participants to select yes or no and write a short answer response in his or her own words. Survey item 2 asked, "Do you believe that a classroom environment, in which students work on projects at their own pace, promotes creativity?" Twenty-nine participants responded to this survey item. Nineteen participates (66%) stated that they did believe classroom environments allowing students

to work at their own pace promoted creativity, whereas ten (24%) disagreed with the statement. Table 37 shows all themes identified. Five themes were extracted from the data on survey item 2 from those who agreed with the statement**.**

Table 37 Themes Expressed in Survey Item 2 (n=29)

Own Pace	Yes n=19	Yes % Agreement	No n=10	No % Agreement	All n=29	Total % Agreement
Assignment Structure	9	47%	9	90%	18	63%
Time	9	47%	7	70%	16	55%
Product	7	37%	4	40%	11	38%
Freedom	4	21%	0	0%	4	14%
Expectations	3	16%	0	0%	3	10%

Of those who stated a classroom allowing students to work at their own pace promoted creativity, the theme of *assignment structure* and *time* most strongly emerged, with forty-seven percent of principal responses indicating both of these themes in one way or another. Another theme to strongly emerge was that of *product* with thirty-seven percent of principal responses indicating this theme. Other themes that emerged from principal responses justifying why respondents stated yes to this question included: *freedom* (21%) and *expectations* (16%). Of the ten principals who stated a classroom allowing for students to work at their own pace did not promote creativity, three themes emerged. Ninety percent of the respondents in this category identified *assignment structure* as the reasoning for their answer. These respondents also identified *time* (70%) and *product* (40%) as rationale for their answer.

Some quotes of principal responses to survey item 2 include:

On the theme of *assignment structure* from those who said "No":

- "Assignment types are the most important factor here. It could be rote work, which would be a no."

- "Not all projects are created equally. Depends on the right kind of project."

On the theme of *assignment structure* from those who said "Yes":

- "Assuming the assignment is appropriate, yes."
- "The process and structure of the assignment needs to be correct."

On the theme of *time* from those who said "No":

- "Not all students can stay focused. Time limits help some be creative!"
- "In the real world, there are deadlines. What's the point of fostering creativity in an environment that doesn't reflect reality?"

On the theme of *time* from those who said "Yes":

- "Removing the constraints of time allows for more ideas to be considered as well as imagined."

On the theme of *product* from those who said "No":

- "There needs to be a rubric to ensure an end product is produced."

On the theme of *product* from those who said "Yes":

- "Allowing room for 'one size does not fit all' assignments with time to come to those unique perspectives is essential for some students to come to creative end solutions or ideas."

On the theme of *freedom*:

- "This allows students to explore a new avenue."

On the theme of *expectations*:

- "Clear expectations are necessary to make the time effective for students."

Principal responses ranged from as little as a few words to as long as several sentences.

Survey item 7 asked principals to "Indicate one or more school assignments or tasks you consider likely to promote students' creativity." Twenty-nine participants responded to this survey item. Six themes were extracted from the data on survey item 7 (see Table 38).

Table 38 Themes Expressed in Survey Item 7 (n=29)

Creative Assignments Include	n	% Agreement
Freedom	23	79%
Product	14	48%
Environment	13	45%
Self-expression	8	28%
Artistic Ability	5	17%
Imagination	3	10%

The theme of *freedom* most strongly emerged, with a majority (79%) of principal responses indicating this theme in one way or another. Two other themes that strongly emerged were *product* with forty-eight percent of principal responses and *environment* with forty-five percent of principal responses indicating this theme. Other themes that emerged from principal responses to assignments likely to promote creativity included: *self-expression* (28%), *artistic ability* (17%), and *imagination* (3%).

Some quotes of principal responses to survey item 7 include:

On the theme of *freedom*:

- "Any project where students have provided supplies and a goal to accomplish, but no instruction or sample model on how to achieve the goal."
- "Open-ended STEM projects."
- "Student choice projects."

On the theme of *product*:

- "Assignments that focus on process instead of end product, so students are more willing to think big and not worry about achieving perfection."
- "Make a mind-map instead of test."
- "Research reports."

On the theme of *environment*:

- "Don't grade everything!"
- "It's actually not about an assignment. It's about the teacher and the environment."

On the theme of *self-expression*:

- "Allow for group work like discussions and debates."

On the theme of *artistic ability*:

- "Create a play based on academic content."
- "Anything art-based."

On the theme of *imagination*:

- "Allow room for imagination on projects."

Principal responses ranged from as little as a few words to as long as several sentences.

Survey item 8 asked, "Can you define one or more techniques used at your school to promote students' creativity?" Twenty-nine participants responded to this survey item. Five themes were extracted from the data on survey item 8 (see Table 39).

Table 39 Themes Expressed in Survey Item 8 (n=29)

Creative Assignments Include	n	% Agreement
Environment	25	86%
Technology	11	38%
Freedom	6	21%
Artistic	4	14%
Product	3	10%

The theme of *environment* most strongly emerged, with a majority (86%) of principal responses indicating this theme in one way or another. The theme of *technology* also strongly emerged with thirty-eight percent of principal responses indicating this theme. Other themes that emerged from principal responses to techniques their school used to promote creativity included: *freedom* (21%), *artistic ability* (14%), and *product* (14%).

Some quotes of principal responses to survey item 8 included:

On the theme of *environment*:

- "Let kids fail. Leave room to be ok with things not working out and let them try again."
- "Integrate centers for lower grades."
- "Collaborative opportunities."

On the theme of *technology*:

- "Include technology for more student differentiation for different kinds of thinkers."
- "Tech integration allows space to tinker."

On the theme of *freedom*:

- "Student choice is huge! Allow students to have more control over what they are learning and how to share it."

On the theme of *artistic ability*:

- "Integrate the arts into more subjects. It is an excellent tool to allow for different ways to showcase learning and thinking."

On the theme of *product*:

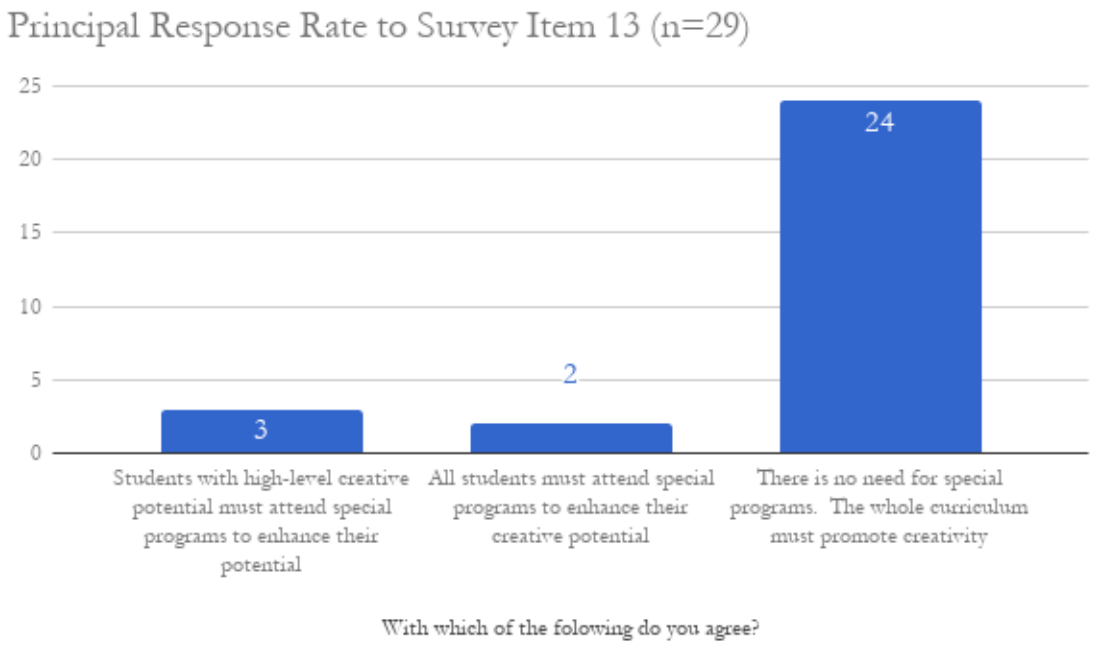
- "Writer's workshop."

- "Focus on process not just the end product."

Principal responses ranged from as little as a few words to as long as several sentences.

Principals were asked to select the one statement to which they agreed the most for item 13. This item provided principals with three statements: (a) students with high-level creative potential must attend special programs to enhance their potential, (b) all students must attend special programs to enhance their creative potential, and (c) there is no need for special programs- the whole curriculum must promote creativity. Figure 7 shows principal responses. A majority of principals (83%) agreed that there was no need for special programs to develop creativity and that the whole curriculum needed to provide creativity. Ten percent of principals agreed with the statement that students with high-level creativity needed to attend special programs to enhance their potential. The remaining principals (7%) believed that all students must attend special programs to enhance their creative potential.

Figure 7 Survey Item 13 Responses



Survey item 9 asked principals to identify whether they thought "the diocese educational system requires a change in order to enhance students' creativity." They were asked to explain, "What do you think these changes should be and why? If not, please explain your reasoning." Twenty-nine participants responded to this survey item. Eighteen participants (62%) agreed that the diocese needed to change in order to enhance student creativity while eleven stated that it did not. Six themes were extracted from the data on Survey item 9 (see Table 40).

Table 40 Themes Expressed in Survey Item 9 (n=29)

Change	Yes n=18	Yes % Agreement	No n=11	No % Agreement	All n=29	Total % Agreement
Teacher Development	15	83%	0	0%	15	52%
Increased Guidance	11	61%	0	0%	11	38%
School Autonomy	0	0%	11	100%	11	38%
Assessment	7	39%	0	0%	7	24%
Assignment	6	33%	0	0%	6	21%
Environment/Space	4	22%	0	0%	4	14%

Of those who stated the diocesan educational system needed to change, the theme of *teacher development* most strongly emerged, with eighty-three percent of principal responses indicating this theme in one way or another. Another theme to strongly emerge was that of *increased guidance* with sixty-one percent of principal responses indicating this theme. Other themes that emerged from principal responses justifying why respondents stated yes to this question included: *assessment* (24%), *assignment* (21%), and *environment/space* (14%). Of the eleven principals who stated they did not think the diocese needed to change its educational system to support creativity development in students, only one theme emerged. One hundred percent of the respondents in this category identified *school autonomy* as the reasoning for their answer.

Some quotes of principal responses to survey item 9 included:

On the theme of *teacher development*:

- "Show teachers how to do it, and make it feel doable."
- "Teachers need more supports to understand how to approach 21st Century learning."
- "Need more teacher PD: Project Based Learning, differentiated instruction, good workshops…."

On the theme of *increased guidance*:

- "Seems like leaders are open. We just need more."
- "Desire has been expressed, but we need more action."
- "I'd like more help. Sometimes confused as school leader on next steps."

On the theme of *school autonomy*:

- "Each school has autonomy. It should be up to schools to decide which direction to go."
- "This responsibility belongs to me as principal, not anyone else."

On the theme of *assessment*:

- "We need to change the kinds of assessments we give if we want to change the orientation of the system."

On the theme of *assignment*:

- "Bring on design thinking!"
- "Instruction needs to move toward an inquiry based or project based environment to support real creativity. Schools can do this on their own, but we need textbook and standards changes."

On the theme of *environment/space*:

- "We need to re-imagine classroom spaces. I don't have enough time in the day to learn about this. An expert from above would be appreciated."

Principal responses ranged from as little as a few words to as long as several sentences.

Principal responses to quantitative survey items 20, 25, 33, 34, 36, 37, 38, 49, 50, 51, 52, and 53 were associated with the environment factor in understanding the classroom practices principals in the Northern California diocese included in this study identified as promoting creativity in the classroom. All participants (n=29) answered these questions. Quantitative survey item 20 stated, "Information and Communication Technologies can liberate a person's creative potential." A majority at eighty-six percent of principals (n=25) indicated they agreed or strongly agreed with this statement. Quantitative survey item 25 stated, "Co-creativity is more important and valuable than individual creativity." A majority at seventy-six percent of principals (n=22) indicated they disagreed or strongly disagreed with this statement. Quantitative survey item 33 stated, "Students have a lot of opportunities to manifest their creativity in school." A small majority at fifty-five percent of principals (n=16) indicated they agreed or strongly agreed with this statement, with the most common response being, agree. The second most often responded answer to item 33 was, disagree.

Quantitative survey item 34 stated, "Students have a lot of means to express their creativity in school." A small majority at fifty-five percent of principals (n=16) indicated they agreed or strongly agreed with this statement. Quantitative survey item 36 stated, "Students have many opportunities to manifest their creativity out of school." A majority at eighty-six percent of principals (n=23) indicated they agreed or strongly agreed with

this statement. All principals (n=29) indicated they agreed or strongly agreed with survey item 37 which stated, "Students need more opportunities to use their hands creatively." Quantitative survey item 38 stated, "Students need to feel comfortable, physically and psychologically, to focus on creative tasks." A majority at ninety-three percent of principals (n=27) indicated they agreed or strongly agreed with this statement with the most often given response being strongly agree. Quantitative survey item 49 stated, "A school environment which emphasizes competition, evaluation, and conformity discourages the manifestation of students' creativity." A small majority at fifty-five percent of principals (n=16) indicated they disagreed or strongly disagreed with this statement with the response given most often being disagree.

Quantitative survey item 50 stated, "Most of school assignments demand creative responses." A majority at eighty-six percent of principals (n=25) indicated they disagreed or strongly disagreed with this statement. Quantitative survey item 51 stated, "Students have enough time to manifest their creativity in the classroom." A majority at seventy-six percent of principals (n=22) indicated they agreed or strongly agreed with this statement. With slightly more agreement, a majority at ninety-percent of principals (n=26) indicated they agreed or strongly agreed with Quantitative survey item 52. It stated, "The class environment is a key factor for the manifestation of students' creativity." Quantitative survey item 53 stated, "Team-work and collaborative learning facilitate collaborative creativity." A majority at ninety-six percent of principals (n=27) indicated they agreed or strongly agreed with this statement. Table 41 and Table 42 show descriptive data, including frequencies, mean, mode, and range for survey items 20, 25, 33, 34, 36, 37, 38, 49, 50, 51, 52, and 53.

Table 41 Frequency of Respondents' Ratings of Survey Items 20, 25, 33, 34, 36, 37, 38, 49, 50, 51, 52, and 53

	Rating			
Quality	1	2	3	4
Information and Communication Technologies can liberate a person's creative potential	0	4	12	13
Co-creativity is more important and valuable than individual creativity	11	11	4	3
Students have a lot of opportunities to manifest their creativity in school	1	12	15	1
Students have a lot of means to express their creativity in school	3	10	12	4
Students have many opportunities to manifest their creativity out of school	1	5	16	7
Students need more opportunities to use their hands creatively	0	0	10	19
Students need to feel comfortable, physically and psychologically, to focus on creative tasks	1	1	9	18
The diocesan curriculum frameworks allow for the manifestation of students' creativity	12	12	4	1
The diocesan approved textbooks and educational materials in general allow for the manifestation of students' creativity	11	13	3	2
A school environment which emphasizes competition, evaluation, and conformity discourages the manifestation of students' creativity	3	13	7	6
Most of school assignments demand creative responses	5	20	4	0
Students have enough time to manifest their creativity in the classroom	6	16	6	1
The class environment is a key factor for the manifestation of students' creativity	1	2	17	9
Team-work and collaborative learning facilitate collaborative creativity	0	2	15	12

Table 42 Frequency of Respondents' Ratings of Survey Items 20, 25, 33, 34, 36, 37, 38, 49, 50, 51, 52, and 53

Quality	*M*	Mode	*SD*	Min.	Max.
Information and Communication Technologies can liberate a person's creative potential	3.28	4	0.70	2	4
Co-creativity is more important and valuable than individual creativity	1.86	1 & 2	0.99	1	4
Students have a lot of opportunities to manifest their creativity in school	2.55	3	0.63	1	4
Students have a lot of means to express their creativity in school	2.55	3	0.83	1	4
Students have many opportunities to manifest their creativity out of school	2.90	3	0.67	1	4

Students need more opportunities to use their hands creatively	3.69	4	0.47	3	4
Students need to feel comfortable, physically and psychologically, to focus on creative tasks	3.52	4	0.74	1	4
The diocesan curriculum frameworks allow for the manifestation of students' creativity	1.79	1 & 2	0.82	1	4
The diocesan approved textbooks and educational materials in general allow for the manifestation of students' creativity	1.72	2	0.80	1	4
A school environment which emphasizes competition, evaluation, and conformity discourages the manifestation of students' creativity	2.55	2	0.95	1	4
Most of school assignments demand creative responses	2.03	2	0.57	1	3
Students have enough time to manifest their creativity in the classroom	1.90	2	0.62	1	4
The class environment is a key factor for the manifestation of students' creativity	3.14	3	0.74	1	4
Team-work and collaborative learning facilitate collaborative creativity	3.34	3	0.61	2	4

Principal responses to quantitative survey items 47 and 48 were associated with principal perspectives on the Northern California diocese within which they work. All participants (n=29) answered these questions. Quantitative survey item 47 stated, "The diocesan curriculum frameworks allow for the manifestation of students' creativity." A majority at eighty-three percent of principals (n=24) indicated they disagreed or strongly disagreed with this statement. Eighty-three percent of principals (n=24) also indicated they disagreed or strongly disagreed with item 48's statement that, "The diocesan approved textbooks and educational materials in general allow for the manifestation of students' creativity." Table 43 and Table 44 show descriptive data, including frequencies, mean, mode, and range for survey items 47 and 48.

Table 43 Frequency of Respondents' Ratings of Survey Items 47 and 48

	Rating			
Quality	1	2	3	4
The diocesan curriculum frameworks allow for the manifestation of students' creativity	12	12	4	1
The diocesan approved textbooks and educational materials in general allow for the manifestation of students' creativity	11	13	3	2

Table 44 Frequency of Respondents' Ratings Survey Items 47 and 48

Quality	*M*	Mode	*SD*	Min.	Max.
The diocesan curriculum frameworks allow for the manifestation of students' creativity	1.79	1 & 2	0.82	1	4
The diocesan approved textbooks and educational materials in general allow for the manifestation of students' creativity	1.72	2	0.80	1	4

Summary of Results: Research Question 3

Survey item 13 expressed principal perceptions about programing that was essential for developing creativity. A majority (83%) believed that there was no need for special programs and the whole curriculum needed to promote creativity. Table 45 demonstrated all themes as expressed by qualitative survey items 2, 7, and 8. The theme that emerged most prominently (44%) was that of *environment*. Principals raised the topic of the school environment when responding to item 7 suggesting to not grade everything a student turned-in. Principals also mentioned that environment and overall climate of the classroom and/or school was more important than any individual assignment. Principals who noted a classroom environment allowing students to work on projects at his or her own pace, as described in item 2, raised the themes of both *freedom* and *expectations*. While principals stated that this lesson format could allow students to explore, others explained the need for clear expectations to be made. These responses did

not make clear whether the expectations were for process, product, or both. *Freedom* in assignments and choice was also the strongest theme emerging from item 7.

Table 45 Themes Expressed in Survey Items 2, 7, and 8

	Survey Items				
Themes	2	7	8	Total	% (n=87)
Environment	0	13	25	38	44%
Freedom	4	23	6	33	38%
Product	11	14	3	28	32%
Assignment Structure	18	0	0	18	21%
Time	16	0	0	16	18%
Technology	0	0	11	11	13%
Artistic	0	5	4	9	10%
Self-expression	0	8	0	8	9%
Imagination	0	3	0	3	3%
Expectations	3	0	0	3	3%

The theme of *product* production was raised by all three survey items. For example, principals coming from both perspectives toward item 2 raised the theme of *product*. Those who disagreed with the statement, suggested there needed to be a rubric that gave a clear understanding of what the end product should be. Principals who agreed with the statement, suggested the need for assignments to allow room for creative end solutions or ideas. The theme of *product* was raised differently in item 7 as principals suggested a variety of alternative products students could create in the classroom. For example, one suggestion was for students to make mind-maps instead of do a traditional test. These responses continued to focus on the creation of a product, which is why they were grouped together. Item 8 raised the theme of *products* through statements about the process as opposed to simply a product focus.

The theme of *assignment structure* was discussed in item 2 by both those who agreed with the statement and those who disagreed. Statements included mentions of the type of work needing to be appropriate and not rote activities in order to be creative. A

large majority of principals coming from both perspectives in item 2 also raised the theme of *time*. Those opposing the statement stated that not all students understood how to use unstructured time. Those who favored the statement expressed that the removal of time constraints allowed for more ideas to be considered and imagined. Other themes mentioned included the importance of *self-expression* in item 7 as well as a*rtistic ability* and *imagination*. The theme of *technology* was identified in thirteen percent of answers as a technique used at school to promote student creativity in survey item 8.

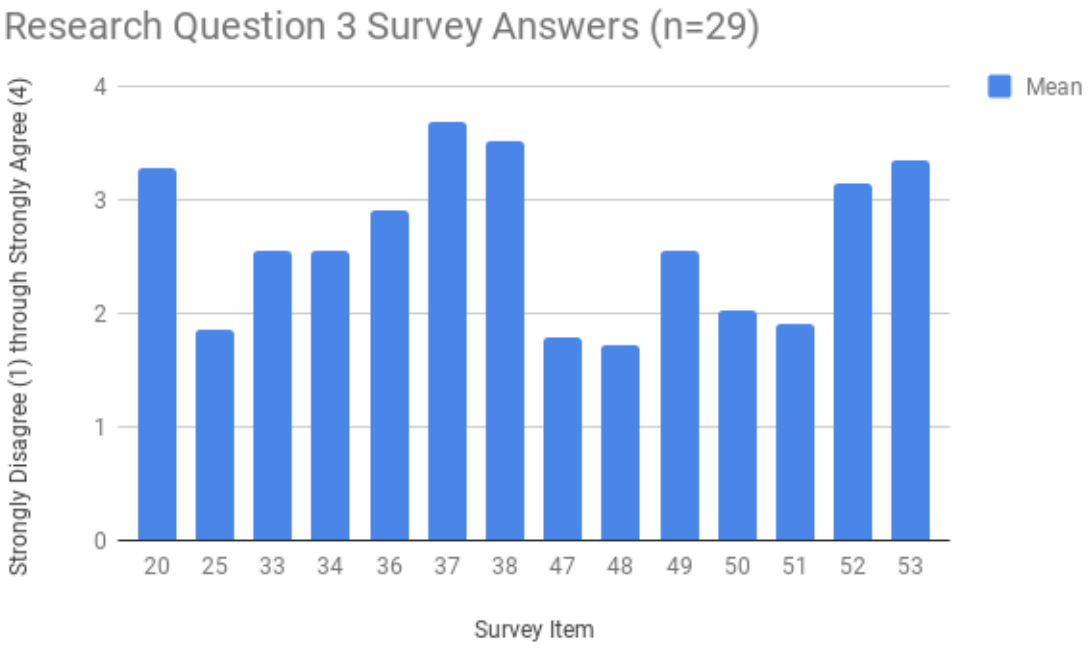
Responses to qualitative survey item 9 related to principal perception of the need for systemic change within their respective diocese. A majority of principals identified the need for change. Four themes emerged from these principals' responses. A large majority of principals responding positively to item 9 mentioned the themes of *teacher development* and *increased guidance.* Principals also identified the need to change the structures of both assessment and assignments. Only one theme emerged from the response of principals identifying no need for change, *school autonomy*. These principals described school as autonomous units that could decide independently from the diocese to make changes or not.

Data from survey items 20, 25, 33, 34, 36, 37, 38, 47, 48, 49, 50, 51, 52, and 53 were used associated with the environment factor. They indicated that a majority of principals believed class environment was a key factor in the manifestation of a student's creativity. Most principals believed students needed to feel comfortable physically and psychologically to focus on creative tasks, but a small majority also believed that a school environment emphasizing competition, evaluation, and conformity did not discourage the manifestation of creativity. While nearly split, a small majority of principals agreed that

students had a lot of opportunity to manifest and express creativity in school. They simultaneously believed most school assignments did not demand creative responses. Principals also believed students had enough time to manifest creativity in the classroom.

While a majority of principals believed individual creativity was just as important as co-creativity, they also believed team-work and collaborative learning facilitated collaborative creativity. A majority of respondents stated that technology could liberate creativity, but all principals believed in the need for more opportunities to use hands creatively. Principals also believed students had opportunity to manifest creativity outside of school. Data from survey items 47 and 48 were used to explore principal perspectives on the Northern California diocese within which they work. The majority of principals disagreed or strongly disagreed that the diocese curriculum frameworks and textbooks allowed for the manifestation of students' creativity. The mean score for each survey item relating to Research Question 3 is reflected in Figure 8.

Figure 8 Research Question 3 Mean Survey Answers



Research Question 4

To what degree do Catholic Elementary principals feel responsible for providing their teachers with ongoing creativity training at their school?

Survey item 10 asked principals to identify the degree to which they felt responsible for providing teachers with ongoing creativity training. The scale provided offered numbers 1-5 with five noted as the highest degree of responsibility and one being the lowest degree of responsibility. The majority (97%) of principals selected a responsibility level of 4 with only one principal selecting a responsibility level of 3. The overall average score of responsibility for all principals (n=29) was 3.97.

Principal responses to quantitative survey items 41, 42, 43, 44, and 45 were used to explore personal perspectives of the principals in this study about their understanding of the degree to which they felt responsible for providing teachers with ongoing creativity training at each respective school site. All participants (n=29) answered these questions. Quantitative survey item 41 stated, "My role as instructional leader is to promote students' creativity." All principals (n=29) indicated they agreed or strongly agreed with this statement, with the most often occurring response, strongly agree. Quantitative survey item 42 stated, "I feel well-trained to promote creativity to my students." A majority at sixty-nine percent of principals (n=20) indicated they agreed or strongly agreed with this statement. Quantitative survey item 43 stated, "I feel well-trained to recognize creative achievements of my students in many domains or subjects." A majority at seventy-nine percent of principals (n=23) indicated they agreed or strongly agreed with this statement. An even higher majority of principals at eighty-three percent (n=24) either agreed or strongly agreed to quantitative survey item 44. It stated, "I feel

well-trained to assess creative products of my students." Finally, quantitative survey item 45 stated, "I can serve as a role model for creativity." A majority at eighty-three percent of principals (n=24) indicated they agreed or strongly agreed with this statement. Table 46 and Table 47 show descriptive data, including frequencies, mean, mode, and range for survey items 41, 42, 43, 44, and 45.

Table 46 Frequency of Respondents' Ratings of Survey Items 41, 42, 43, 44, and 45

	Rating			
Quality	1	2	3	4
My role as instructional leader is to promote students' creativity	0	0	10	19
I feel well-trained to promote creativity to my students	1	8	13	7
I feel well-trained to recognize creative achievements of my students in many domains or subjects	0	6	15	8
I feel well-trained to assess creative products of my students	0	5	18	6
I can serve as a role model for creativity	0	5	15	9

Table 47 Frequency of Respondents' Ratings of Survey Items 41, 42, 43, 44, and 45

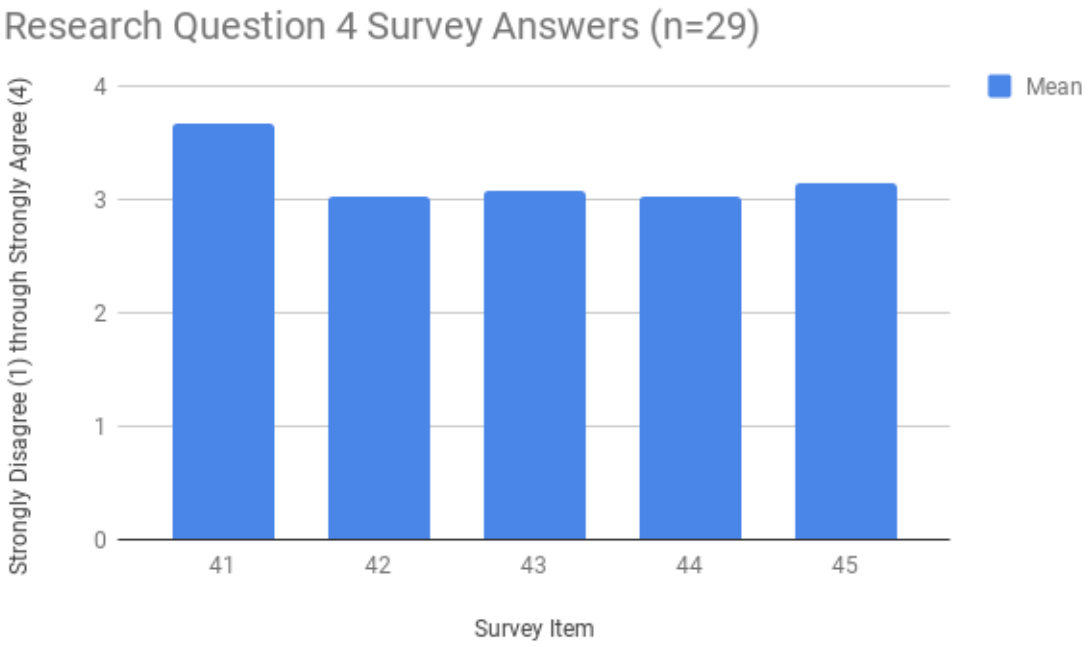
Quality	*M*	Mode	*SD*	Min.	Max.
My role as instructional leader is to promote students' creativity	3.66	4	0.48	3	4
I feel well-trained to promote creativity to my students	3.03	3	0.63	1	4
I feel well-trained to recognize creative achievements of my students in many domains or subjects	3.07	3	0.70	1	4
I feel well-trained to assess creative products of my students	3.03	3	0.63	1	4
I can serve as a role model for creativity	3.14	3	0.69	1	4

Summary of Results: Research Question 4

Data from survey items 41, 42, 43, 44, and 45 were used to explore personal perspectives of the principals in this study about their responsibility or connection to creativity. They indicated that all principals believed it was their role as instructional leader to promote student creativity. Survey item 10 asked principals to identify the

degree to which they felt responsible for providing ongoing creativity training for their teachers. The average score for principals was 3.97 on a scale of 1-5. A majority of principals indicated they felt well-trained to recognize creative achievements in many domains and subjects as well as to promote creativity to students. Most principals also believed they could serve as a role model for creativity. The mean score for each survey item relating to Research Question 4 is reflected in Figure 9.

Figure 9 Research Question 4 Mean Survey Answers



Summary

The purpose of this study was to identify the beliefs that Catholic elementary school principals in a Northern California diocese held about creativity, creative students, instructional practices that promote the growth of student creativity, and the degree of responsibility they felt for supporting their teachers' creativity training.

The four research questions were answered using the data gathered from the online survey. Principals' beliefs and implicit theories about creativity, their beliefs

about the characteristics of creative students, the classroom practices they identify as promoting creativity in the classroom, and the degree of responsibility they hold in supporting the development of creative practices at their school through providing ongoing creativity training at the teacher level were identified. The overall findings of this study suggest that principals have a basic understanding of creativity, a willingness to support it, but need additional supports from the diocesan level in order to accomplish this task. Conclusions and implications are discussed in the following chapter. Finally, recommendations for future research and practice is presented.

CHAPTER V

SUMMARY, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Chapter Overview

Chapter V summarizes and discusses the findings that were presented in Chapter IV. The four research questions introduced in Chapter I are individually discussed followed by a general discussion of the research study. Following the discussion, implications and recommendations for future research and for the profession of the Catholic elementary school principal in relation to creativity development is shared.

Summary of the Study

The rapidly changing requirements of the 21st century have put special emphasis on the need for creative thinking, and this emphasis has brought increased attention to the ineffectiveness of traditional pedagogies in preparing students for the demands of the current century (Darling-Hammond, 2010; Hartley, 2003; Kampylis, 2010; Skiba et al., 2010). New pedagogies and education are needed in order to allow students to "...learn how to learn, create, and invent the new world they are entering" (Darling-Hammond, 2010, p. 3). Pope Pius XI outlined the position of the Church on the importance of the education of children in his encyclical, *Divini Illius Magistri* (1929). He emphasized that those in education must see each student as "a whole, individually and socially" (#14), and that education must include "physical and spiritual, intellectual and moral, individual, domestic and social" (#95) teachings. Sternberg, Ferrari, Clinkenbeard, and Grigorenko (1996) examined the role traditional classrooms play in either supporting or discriminating against children with creative strengths. Their belief was that most schooling systems favored children with strength in memory and analytical abilities over

those with creative abilities. Their findings were that students who were taught in a way that best fit how they thought did best in school. If a student's strengths were not highlighted through education, then they were not taught as a whole being, and the goal expressed by Pope Pius XI was not achieved. It is for these reasons that Catholic elementary schools need to better prepare their students for a world dependent upon creativity.

Teachers are influential in developing creative thinking and learning in the classroom, however teachers may believe they are fostering creativity when they are actually suppressing it (Beghetto, 2005; Skiba et al., 2010). Prior research indicates that teachers' perceptions of creativity and creative behaviors often run counter to the theories that guide creativity research (Dawson, Andrea, Affinito, & Westby, 1999; Diakidoy & Kanari, 199; Skiba et al., 2010; Westby & Dawson, 1995). Regardless of content area, judging creative ability by products confuses potential with accomplishment (Sternberg & Lubart, 1995). A heavily product-oriented focus neglects the developmental aspect of creativity and may prevent teachers from seeing opportunities to develop students' everyday insights into more comprehensive creative products (Cohen, 1989). Without proper training, even teachers who value creativity are unable to fully support its development in the classroom. Teachers who understand the nature of creativity, are best equipped to avoid negative myths and stereotypes surrounding creativity (Beghetto & Kaufman, 2010). Teachers need an awareness of the variety of theories and definitions of creativity when selecting teaching and assessment tools in order to avoid unintentionally suppressing creative expression in the classroom (Fishkin & Johnson, 1998). While many teachers express interest in creativity, findings show many have little tolerance for

manifestations of creativity in their classrooms (Andiliou & Murphy, 2010; Beghetto & Plucker, 2006; Chappel, 2007; Fleith, 2000; Runco, 2003b; Runco & Johnson, 2002).

The question of who should do the training exists. Effective leadership is viewed as the impetus for school change, student growth, and formation of the culture within the school (Liontos, 1992; Sergiovanni, 1987). The principal serves as the key agent for change within the school and has been identified as a critical component in the process of improving student achievement (Lashley, 2007; Praisner, 2003). "To date we have not found a single case of a school improving its student achievement record in the absence of talented leadership. Why is leadership crucial? One explanation is that leaders have the potential to unleash latent capacities in organizations" (Louis, Leithwood, Wahlstrom, & Anderson, 2010, p. 9). Unfortunately, a gap exists in research on creativity from the principals' perspective. Understanding the importance of leadership on school change, the need for schools to better prepare their students for a world built upon creativity, and the gap in research on principals' perspectives toward creativity, this study intended to learn more about principal perceptions of creativity so that the diocese could better support and train principals to provide ongoing professional development for teachers to face their implicit theories about creativity.

The population of this study consisted of currently employed, full-time, parochial Catholic elementary school principals in a Northern California diocese. The sample for this study was selected using convenience sampling in which the researcher selected participants because they were willing and able to be studied (Creswell, 2012). Twenty-nine principals participated in this study. The overall response rate for the study was sixty-two percent. Not all principals who participated in this study completed the

demographic section of the survey. As such, the number of principals who responded to the demographic portion of the survey varied from the number of principals who responded to the questions related to the study's research questions (n=29).

The principals who responded to the demographic portion of this survey were predominantly female (60%) and between the ages of fifty-one and seventy-five (58%). Most of the respondents were veteran teachers who had eleven or more years of teaching experience (60%). Many, however, were fairly new principals with five or less years of administrative experience (32%). The majority (60%) of principals had between zero and ten years of administrative experience with twelve percent having twenty-one or more years of administrative experience. Nearly all of the principals who responded (96%) had earned at least a master's degree.

The researcher selected a descriptive, mixed-methods, convergent parallel design for this study. As such, both qualitative and quantitative data were collected concurrently through data sets that were prepared and analyzed independently. This study slightly modified the *TCCQ* (Kampylis, 2010). The researcher received permission from Dr. Kampylis to utilize and modify this questionnaire for the purpose of this study (See Appendix G) and to transcribe questions into an online format utilizing Google Survey (See Appendix F). The modified survey was re-named by the researcher the *PCCQ*. Surveys consisted of a relatively systematic, mostly standardized approach to collecting information on individuals (Marsden & Wright, 2010). The statements and questions on the *TCCQ* were tested and revised for reliability and validity by the original researchers, using recognized methods and procedures, including expert panels and pilot tests on sample participants. This researcher took appropriate measures to re-establish this

validity and reliability by convening a panel of experts in Catholic education, Catholic school leadership, creativity, and quantitative methodology. The *PCCQ* was sent electronically utilizing Google Survey to all parochial elementary principals in the Northern California diocese during the Fall of 2017, a total of forty-seven parochial principals (n= 47).

The *PCCQ* was divided into six parts. Part One included (a) the introduction and welcome to the participants, (b) general directions relative to the survey, and (c) the consent yes/no option. Participants needed to freely select the "yes" option in order to complete the survey. The qualitative portion of the survey was placed first so that principals' responses were not influenced by the statements in the quantitative section. Part Two included two scenario examples. Respondents answered yes or no and described why they selected that answer. Part Three included eight open-ended questions. Part Four included three items for participants to select the one answer to which they agreed or believed was true. Part Five included forty statements to be ranked on a four-point (from "strongly disagree" to "strongly agree") Likert-type scale. The final section was optional and explored demographics and background collecting information about the respondents' (a)gender, (b) age in years, (c) highest educational degree earned, (d) years of experience teaching, (e) years of experience as an administrator, (f) extra-curricular studies/hobbies, and (g) whether they would like to be informed of the study results.

The data gathered for this study analyzed the following research questions:

1. What beliefs and implicit theories about creativity do Catholic Elementary principals hold?

2. What are Catholic Elementary principals' beliefs about the characteristics of creative students?
3. What classroom practices do Catholic Elementary principals identify as promoting creativity in the classroom?
4. To what degree do Catholic Elementary principals feel responsible for providing their teachers with ongoing creativity training at their school?

The theoretical framework that guided this research was the Investment Theory of Creativity (Sternberg & Lubart, 1995). This theory was based on an economic metaphor of buying low and selling high. In this theory, individuals who were creative invested or developed novel ideas that others had not yet identified. After metaphorically buying an idea when its value was low to others, these individuals improved these ideas, they figuratively sold them back to a market that had not previously seen their value. This theory includes the need for creative ideation to generate novel ideas that are both new and valuable as well as having the perseverance to sell, or persuade others that these new ideas were worthy of buying (Lubart & Sternberg, 1995; Sternberg, 2012; Sternberg & Lubart, 1996; Zhang & Sternberg, 2011). Ultimately, the Investment Theory grew from the bringing together of six resources including: (a) intellectual skills, (b) knowledge skills, (c) thinking skills, (d) personality, (e) motivation, and (f) environment (Sternberg, 2006).

Discussion and Research Questions

The findings of these four questions from this study as understood through the Investment Theory of Creativity are summarized below. Each research question is individually discussed in this chapter. Following these individual discussions are

conclusions that tie together the four research questions.

Research Question 1

This study asked principals to identify their beliefs and implicit theories about creativity. Principals highly agreed that creativity was a characteristic of all students while simultaneously agreeing that some students were more creative than others. An important underlying assumption for personal attributes in the Investment Theory is that individuals can choose to nurture and exercise the attributes that lead to creativity (Sternberg, 2012). Being creative or engaging in the process of creating novel ideas is a decision according to the Investment Theory (Sternberg, 2002). Although deciding to be creative does not guarantee creativity, creativity could not occur without this initial decision (Johnson-Laird, 1988; Sternberg, 2012), which provides one explanation for principal perception that some students are more creative than others.

Overall, principals agreed that creativity was most inspired by intrinsic motivation. They identified that intrinsic motivation was more important than external factors in creativity. Motivation is central to the Investment Theory because it inspires the individual to decide to pursue creativity (Sternberg, 2002; Sternberg & Lubart, 1995). This individual decision to be creative springs from intrinsic motivation most often (Amabile, 1996; Hennessey & Amabile, 2010; Shalley & Perry-Smith, 2001; Zhou, 1998). For example, intrinsic motivation is a critical aspect that must be present along with domain-specific and general creativity within Amabile's (1996) research. Csikszentmihalyi (1996) found that sustained attention to the creative process seemingly took place out of time promoting creativity through the intrinsic rewards of the process itself. Creative people habitually find unusual ways to solve problems, take risks, defy

the predominant ideas of the crowd, and are motivated to overcome obstacles others might not attempt (Sternberg & Lubart, 1996).

Three themes emerged most often from principal responses to the definition of creativity including: *product*, *originality*, and *perseverance*. The most frequently identified criteria was creation of a *product*. Beghetto (2010a) and Runco (2004) both explored the common confusion amongst educators in understanding whether creativity necessitated the creation of an appropriate or useful product. According to researchers, (Beghetto, 2010a; Kampylis et al., 2009, Plucker et al., 2004; Starko, 2005, Sternberg & Lubart, 1999), most definitions of creativity include some element of appropriateness in the end product. Principal responses mirrored the established definition that creativity must result in something useful (Beghetto, 2010a) or something that meets a goal (Starko, 2005).

Originality was the most second most frequently occurring theme identified by principals in this study when defining creativity. Over half of the principals in this sample believed originality to be a form of creativity. These results corresponded with results from previous research on educator perceptions of creativity (Aljughaim & Mowrer- Reynolds, 2005; Andiliou & Murphy, 2010; Cheung, Tse, Tsang, 2003; Diakidoy & Phtiaka, 2002; Fryer & Colllings, 1991). This research found that educators broadly viewed originality as the best defining characteristic of creativity. This finding also corresponded with other researchers' definitions of creativity (Craft, 2001a; Plucker et al., 2004; Kampylis et al., 2009; Runco, 2004; Starko, 2005). All of these researchers concluded that originality was one of the most commonly experienced characteristics of creativity. For example, Starko (2005) stated that, "Novelty and originality may be the

characteristics most immediately associated with creativity" (p. 6) in his definition of creativity. The themes of originality and useful products as identified by the principals in this study matched the two criteria for creativity as defined through Lubart (2001) who stated that creativity was the production of original, potentially workable, solutions to novel, ill-defined problems of relatively high complexity. Principals mostly identified that the creative outcome needed to be novel for both the creator and society, however approximately one fifth of principals believed it only needed to be novel for the creator, which does not match the research.

While not included in Sternberg and Lubart's definition of creativity, principals identified a third theme when defining creativity. *Perseverance* was mentioned in thirty-four percent of responses to survey item 5. Sternberg and Lubart (1996) did, however, identify perseverance as an integral part of the definition of creativity in the Investment Theory. Sternberg (2012) found that the thinking styles of creative individuals included a need for perseverance in the pursuit of their goals. The attributes that Sternberg found important for creative functioning included: (a) openness to experience, (b) risk-taking, (c) willingness to overcome obstacles, (d) tolerance of ambiguity, and (e) creative self-efficacy (Sternberg, 2012).

The positive correlation between perseverance and creativity was a topic well-studied in creativity literature (Dollinger, Urban, & James, 2004; Feist, 1998; Griffin & McDermott, 1998). In settings where standardization and conformity are expected, such as a traditional school, the intense focus of creative perseverance could be perceived as obnoxious or aggressive (Torrance, 1963). Principals agreed that social and environmental factors influenced the creative performance of a student corresponding

with Csikszentmihalyi and Wolfe's (2000) explanation that environmental support plays an important role in either rewarding creative ideas or devaluing them. The cultural context in which creativity occurs determines whether the idea or product is perceived as novel and useful (Moran, 2010).

There was a divide in principal response to whether the school was the best environment for students to manifest creativity, however, the average score leaned toward disagreement. Principal answers matched scholarly research on this topic. There are many examples of how creativity is actively discouraged in schools. For example, although teachers often claim to value creativity in the classroom, their actual teaching behaviors and attitudes often do not favor creative students (Beghetto, 2007; Sawyer, 2006; Scott, 1999; Torrance, 1963; Westby & Dawson, 1995).

Principals leaned toward agreement that creativity can be taught. Sternberg (2006) viewed creativity as a developing skill needing to be nurtured as an integral part of intelligence (Sternberg, 2006) and as a higher-level process that worked in conjunction with critical and higher-order thinking (Krathwohl, 2002; Perkins, 1990; Ross, 1976; Yang, Wan, & Chiou, 2010). While the mean for whether creative outcome was more a result of hard work or insight was skewed toward agreement at 3.38, the mode indicated a majority of principals believed creativity resulted more from having insight than working hard. Sternberg (2012) found that the thinking styles of creative individuals included a preference for cognitive flexibility or thinking in new ways including the ability to switch between global and local thinking.

Principals did not believe there was a positive link between creativity and intelligence with a mode of 2 and overall mean of 2.45. However, Sternberg (2012)

expressed that the individual must have the synthetic intelligence to see problems in new ways, the analytical intelligence to decide which ideas should be pursued, and the practical intelligence to persuade others of the value of these new ideas. Principals disagreed that a person needed prior knowledge in a domain in order to manifest creativity, while agreeing that it was possible for an intelligent person to not be creative. Principal responses were slightly contrasting what researchers identified. Knowledge has both benefits and drawbacks for creativity. There must be a solid base of knowledge for an individual to be able to create within a field or domain (Amabile, 1996; Baer, 2012; Csíkszentmihályi, 1996; Kaufman & Beghetto, 2009; Sternberg, 2012). However, too much knowledge can impact cognitive flexibility by limiting ability to switch between global and local thinking (Sternberg, 2012).

Overall, findings from research question 1 showed *product*, *originality*, and *perseverance* as the top three attributes principals assigned to the definition of creativity. Principals believed that creativity could be taught and identified its development as playing an important role in social and personal evolution. While identified as a characteristic of all students, principals noted that some students were more creative than others. However, most did not believe there was a link between intelligence and creativity. Respondents identified intrinsic motivation as more important that extrinsic motivation in creativity development, but also explained that insights as opposed to hard work were more responsible for creativity outcomes. Principals shared that social and environmental factors influenced creativity. However, many principals stated that the school environment was not most conducive for creativity development.

Research Question 2

This study asked principals to identify their beliefs about the characteristics of creative students. Principals generally agreed with a mode of 3 and an average of 3.1 that a creative person produced a lot of questions, coinciding with the third most-often identified theme emerging from qualitative data of curiosity (31%). According to many researchers, the resources that make an individual creative can also hold negative effects for the student. For example, teachers may dislike the presence of creative students in the classroom because they can be seen as defiant, nonconformist, and difficult (Beghetto, 2007a; Sawyer, 2006; Scott, 1999; Torrance, 1963: Westby & Dawson, 1995). However, principals disagreed with this research stating that the most creative students did not often face obstacles in school. Surprisingly, they did note that most creative students did not have the best grades in school with a mean answer of 1.41 and a mode of highly disagree.

Principals did not believe that self-confidence was a basic characteristic of a creative person with a mean answer of 2.17 and with the most frequently made answer of disagree. Academic motivation including student self-perception and beliefs were powerful predictors of student behavior according to Midgley. Maehr, Hruda, Anderman, Anderman, Freeman, and Urdan (2000). According to Bandura (1997), self-efficacy beliefs predicted a tendency to persevere in spite of challenges. Surprisingly, while principals did not believe that self-confidence was a basic characteristic of creative students, principals agreed that creative individuals were not afraid to make mistakes, connecting with thirty-four percent of qualitative answers referencing perseverance in their responses.

The very nature of traditional classroom constraints such as the presence of external rewards, competition, lack of autonomy, and the expectation of being evaluated were all identified as having a negative impact on the intrinsic motivation necessary for creativity (Amabile, 1996; Hennesey & Amabile, 1998). The intrinsic motivation that leads to creative perseverance may also lead the creative individual to neglect more mundane tasks (Csikszentmihalyi, 1996).

Findings from research question 2 showed *originality*, *perseverance*, and *curiosity* as the top three attributes participants in this study believed creative students held. Principals also identified that creative students were able to express their creativity in many domains and ways. Respondents explained that creative students produced a lot of questions, and were not afraid to make mistakes. Surprisingly, principals did not identify self-confidence as a particular attribute held by a creative student. Principals also identified that creative students did not have the best grades in school. Running contrary to principal perspectives toward the lack of obstacles, principals rejected the notion that creative students often faced obstacles in school.

Research Question 3

This study asked principals to identify classroom practices that promoted creativity. Principals agreed that the class environment was a key factor for the manifestation of students' creativity with a mean score of 3.14. The theme of environment was mentioned forty-four percent of the time of the three themes that emerged most often in the qualitative data. The principal's identification coincided with research stating that environmental support played an important role in either rewarding creative ideas or devaluing them (Csikszentmihalyi & Wolfe, 2000; Sternberg & Lubart,

1995). When it came to the issue of whether students had a lot of opportunities to manifest their creativity in school as well as whether students had the means to express their creativity in school, the most frequently responded answer was one of agreement. While principals believed technologies could liberate a student's creative potential with a mode of highly agree, collectively, principals identified that students did not have enough time to manifest creativity in the classroom. Respondents highly agreed that students needed more opportunities to use their hands creatively. Most principals agreed that students had many opportunities to manifest their creativity out of school**.** Principals did not identify co-creativity as more valuable than individual creativity, but did agree that team-work and collaborative opportunities facilitated collaborative creativity.

Regarding perceptions of the diocese in which the study was done, principals identified that their diocesan curriculum frameworks did not allow for the manifestation of students' creativity. Similarly, they identified with a mean of 1.72 that diocesan approved textbooks and educational materials did not allow for the manifestation of students' creativity. Principals agreed that students needed to feel comfortable, physically and psychologically, to focus on creative tasks. However, they disagreed with an average score of 2.55 that a school environment which emphasized competition, evaluation and conformity discouraged the manifestation of students' creativity. Respondents did not believe that most school assignments demanded creative responses.

According to Runco (2004), the way that students are taught can inhibit creativity by overemphasizing selection of correct responses rather than engaging in the learning process itself. The researcher further pointed to the overemphasis of convergent thinking in classrooms, which required students to arrive at the one pre-determined, correct

answer, versus an emphasis on divergent thinking, requiring students engage in creative ideation and produce many ideas as possible solutions. The second most identified theme from the qualitative data included the need for *freedom* (38%), supporting principal understanding of the concepts found in Runco's work. Although teachers themselves could support creativity in the classroom with strategies such as providing choice and opportunity for imaginative assignments and encouraging students' intrinsic motivation, Beghetto and Kaufman (2014) found this was often the exception in actual practice rather than the rule.

Findings from research question 3 showed *freedom* as one of the top three attributes identified by principals as included in a classrooms supporting creativity development. Principals identified that the environment was key in supporting creativity and that students needed to feel safe both physically and psychologically to focus on creative tasks. However, principals did not identify a school environment that emphasized competition, evaluation, and conformity as one that would discourage creativity. While principals identified that students had opportunities to manifest creativity outside of school, they also identified that students had a lot of means to express their creativity in school. Technology was identified as a tool to liberate creativity, but principals also identified that students needed more time to use their hands creatively. Most importantly, respondents identified that students did not have enough time to manifest their creativity and that most school assignments did not demand creativity.

Research Question 4

This study asked principals to identify the degree to which they felt responsible for providing their teachers with ongoing creativity training. Principals generally rated all self-description questions with agreement. Respondents agreed that their role as instructional leader was to promote students' creativity, and they felt well-trained to promote creativity to their students. They also agreed that they felt well-trained to recognize creative achievements of their students across domain and subject lines. Principals identified that they felt well-trained to assess creative products of their students with a mean score of 3.03. Finally, they agreed that they could serve as role models for creativity. Although there is more need for research on this topic, there is research indicating even individuals who explicitly stated their endorsement for creativity could hold unknown and implicit bias against it (Mueller, Melwani, & Goncalo, 2012). The apparent contradictions within principal answers indicates that this could be the case within the study population.

Findings from research question 4 showed the responsibility identified by principals toward supporting teacher ongoing creativity development. Overall, principals identified that they believed their role was to promote student creativity. They also felt well-trained to recognize creativity, assess creative products, promote creativity, and serve as role models for it.

Demographics

The principals (n=29) who responded to this survey were predominantly female (60%) and between the ages of fifty-one and seventy-five (58%). Most of the respondents were veteran teachers who had eleven or more years of teaching experience

(60%). Many, however, were fairly new principals with five or less years of administrative experience (32%). The majority (60%) of principals had between zero and ten years of administrative experience with twelve percent having twenty-one or more years of administrative experience. Nearly all of the principals who responded (96%) had earned at least a master's degree.

Conclusions

This study revealed the complex nature of creativity development in Catholic parish elementary schools. The conclusions made were based upon the findings from this study and express principals' conceptions of creativity, beliefs about the characteristics of creative students, beliefs about classroom practices that promote creativity in the classroom, and their responsibility for providing teachers with ongoing creativity training. Peterson and Deal (2002) believed that school leaders have an important role in deliberately shaping the culture of their schools, through "positive values and shared purpose" (p. 30). This expectation makes understanding the perspectives of principals toward creativity essential.

Overall, principals in this study identified that the leadership of the Northern California diocese in which they worked seemed open to becoming more supportive of creativity development in schools. However, principals did not believe that current curriculum frameworks or textbooks and educational materials in the diocese supported the development of creativity. Questions of whose responsibility to develop creativity existed between principal answers leaving this topic torn between local school autonomy and diocesan top down academic supports. The school principal has more responsibility and is held more accountable than ever before for the education of all students (Lashley,

2007; Praisner, 2003), and the principal's role has become increasingly complex as the nature of society, political expectations, and schools as organizations have changed (Leithwood & Duke, 1999). This increased complexity and responsibility impacts a principal's ability to attend to instructional leadership when messaging from the diocese regarding creativity is non-existent or unclear.

Principals believed that creativity was something that could be taught. As a whole, principals did not believe that there was a direct link between intelligence and creativity expression. Intrinsic motivation was an important factor in creativity development to most respondents. Principals identified that all students were capable of being creative, but also shared that some students were more creative than others. They also believed that there was no need for prior knowledge to manifest creativity. In fact, they expressed that creativity came more from insights than from hard work.

Principals identified the need for both originality and utility of a product or idea in defining creativity. However, the question of who defined the extent or existence of originality was not definitive amongst the principals. A slight majority of principals identified the need for originality to be acknowledged by both the creator and society. Alternatively, some principals believed the product only needed to be novel to the creator. Principals identified that creative students showed their creativity through originality in many different domains and in many different ways. Collectively, most believed that creative students asked questions and were curious. They were identified as original thinkers who were not afraid to make mistakes and had perseverance to keep moving forward in the face of those mistakes. However, self-confidence was not identified as a particular attribute associated with creative students. A lack of clarity in

the definition and manifestations of creativity leaves space for misconceptions and misidentification to grow in the school culture impacting actions in the classroom.

Principals identified that creativity was important in the social and personal evolution of a student. As such, principals saw themselves as highly responsible for providing teachers with ongoing training in order to promote student creativity. The attributes of quality school principals illustrate that successful school leaders influence student achievement through the support and development of effective teachers (Davis et al., 2005). The school's instructional leader exhibits behaviors that influence teacher efficacy by facilitating the learning and growth of teachers. Overall, principals felt well-trained to recognize, access, and promote creativity. They also expressed the belief that they were able to serve as role models for creativity development.

Principals identified that creativity development was impacted by both environmental and social factors, and they expressed that students needed to feel safe physically and psychologically to grow in creativity. Barth (2002) cited the need for instructional leaders to have a clear understanding of the culture of their school and to actively lead faculty and students in discussing and shifting unhealthy beliefs and practices that interfere with learning. He also discussed the need to "uncouple learning and punishment" (Barth, 2002, p. 11). At its essence, Barth (2002) believed that instructional leadership was about creating a culture that fostered, nurtured and developed lifelong learning in both educators and in students. While principals acknowledged the impact of the environment on creativity development, they did not see a school environment emphasizing competition, evaluation, and conformity as one that discouraged creativity formation.

Finally, principals expressed that schools offered opportunity to both manifest creativity as well as the means to express creativity. Some principals offered the example of technology integration as a tool liberating creativity and allowing students to achieve both manifestation and expression of creativity. As a whole, they also expressed that students needed more time to manifest creativity. Principals identified that most school assignments did not demand creativity. While they also did not believe that creative students often faced obstacles in school, they expressed that creative students did not have the best grades in school. The difference between these perspectives is perplexing. Ultimately, principals expressed that the school environment was not the most conducive one for creativity development.

If principals acknowledge their own responsibility to support creativity development within their faculty, but do not identify the school environment as the most conducive one for creativity development, something needs to change. Catholic elementary schools need to have principals who are able to support teachers by providing them with ongoing training that will best prepare their students for life in the 21st Century. According to Ozar (2012), the National Standards and Benchmarks for Effective Catholic Elementary and Secondary Schools "are a compass, not a how-to-manual…that provide a road map for arriving at the 21st century Catholic schools we want and need" (p. 18). Standard 7 states, "An excellent Catholic school has a clearly articulated, rigorous curriculum aligned with relevant standards, 21st century skills, and Gospel values, implemented through effective instruction" (p.11). Principals need assistance in learning how to articulate and align rigorous curriculum with 21st century skills including creativity development.

Recommendations

This section presents recommendations for the Catholic parish elementary principal, for the focal diocese in this study, for leadership graduate programs, and for future research. Recommendations are meant to encourage future conversation, action, and research so that the integration of creativity in Catholic parish elementary schools can continue to be explored and expanded.

Recommendations for Practice

Leadership Training

Principals need to be able to identify creative potential in their teachers, recognize creative outcomes, encourage personal characteristics and cognitive processes related to creativity, and create a school climate that empowers teachers to structure a classroom environment that promotes creativity (Diakidoy & Phtiaka, 2002). According to Lambert (1998), the principal's role includes developing a shared vision, establishing a learning-centered climate, and engaging school community members in decision-making processes (Lambert, 1998, pp. 26-27). Leadership graduate programs should prepare principals to successfully foster a school climate conducive to creativity development. Specific courses and trainings that focus on fostering a school culture that support creative thinking in students should be required as part of the administrative credential. These trainings should be continuous, comprehensive, and current (Kampylis, 2010). Course structure should be based on principal needs and proposals, the conclusions of creativity research, and should take into account principals' real-world experience (Morais & Azevedo, 2011).

Graduate programs should employ principals who have successfully carried out classroom programs for fostering students' creative thinking in addition to researchers and scholars. These courses should include access to current educational creativity theories, case studies, class observations, discussion with colleagues, and opportunity to examine and reflect on their beliefs and practices related to creativity (Morais & Azevedo, 2011). Trainings should reinforce understandings of how creative thinking and problem solving could be incorporated into instruction across all subjects (Andiliou & Murphy, 2010; Kampylis, 2010) and need to very practically establish how to integrate creative practices with both current curriculum materials and standards (Beghetto, 2007b).

Diocesean Frameworks

The diocese should consider explicitly establishing creative thinking as a learning goal in the Catholic school system. While the significance of creativity in education has increasingly been recognized by education policymakers in the last twenty years (Craft & Jeffrey, 2008), a comprehensive exploration about why, when, and how thinking must grow creativity through formal education is still necessary (Andiliou & Murphy, 2010; Kampylis, 2010). The USCCB (2005a) acknowledged that Catholic schools in the third millennium face enormous personnel, economic, and Church-related issues that challenged their future (Notre Dame Task Force, 2006). If a student's strengths are not highlighted through education, then they are not being taught as a whole person, and the goal expressed by Pope Pius XI (1929) is not achieved.

Principals in this study identified that the structures, textbooks, and educational materials provided by the diocese did not support creativity development. The diocese

should define creativity within the framework of its elementary education system. Offering examples of how to foster it in all curricular areas and formulating specific education goals around it is advised (Kampylis, 2010). An example of doing so includes establishing creativity skill expectations and integrating those into curriculum standards. Only after key skill expectations are defined can appropriate programs be designed and implemented at the school level (Andiliou & Murphy, 2010; Kampylis et al., 2009) in a consistent fashion.

School Leadership Structure

According to Horng, Klasik, and Loeb (2010), Catholic elementary school principals spend most of their workday addressing managerial tasks that arise on a regular basis. It is well established that the role of the instructional leader is important to student learning and student achievement (Acheson & Gall, 1997; Blase & Blase, 2001; Cotton, 2003). However, the time required for Catholic elementary school principals to be effective and successful in meeting these demands is not achievable given the current time constraints of the position (Sergiovanni, 2007). In fact, Stronge (1988), found that only one-tenth of a principal's time is spent acting as an instructional leader. "The twenty-first century school leaders are finding it difficult to keep up with the pressures brought to bear on their profession" (Leonard, 2010, p. 1). Many factors including lack of time, increased managerial duties, and lack of training have led to this decreased time allocation (Flath, 1989). Catholic elementary school principals simply do not have the time they need to be consistent and effective in their instructional leadership practices. It is essential that the diocese look at the required leadership structures within Catholic elementary schools.

This study demonstrated that responding principals believed it was their responsibility to support creativity development at their school site. They self-identified that they had the skills to do so as well. However, they did not believe school was the best environment in which to develop creativity. When principals with the understanding of the importance of creativity are unable to develop it because they have no time to work toward implementing it, the issue must be addressed. Principals need more time in their day to focus on instructional leadership. Adding a partner who is equal to the principal thus removing the tasks of fundraising, marketing, admissions, and building and facilities would empower principals to spend more time focusing on instructional leadership.

Principal Training at the Dioceses

Principals need more opportunities to reflect on their beliefs and practices with regard to creativity, to question how and why they should foster creative-thinking skills in schools, and to develop their own creativity proficiency in order to better model it for teachers. Teaching for the needs of the 21st century necessitate the use of imagination, flexibility, curiosity, self-confidence, a willingness to take risks, meta-cognitive awareness, interpersonal intelligence, and divergent thinking (Chan & Chan, 1999; Diakidoy & Kanari, 1999; Kampylis, 2010). The diocese should create a framework for promoting creativity within their principal trainings and continuing professional development. Creativity is as much a decision about and an attitude toward life as it is a matter of ability according to Sternberg (2006). "Creativity is often obvious in young children, but it may be harder to find in older children and adults because their creative potential has been suppressed by a society that encourages intellectual conformity" (p. 93). Training for principals should include experiential opportunities for principals to

develop their own personal characteristics associated with creativity, and teaching for creativity, such as flexibility, spontaneity, and divergent thinking. One example could include the use of improvisational classes (Sawyer, 2004a, 2004b).

Diocesean Culture

Diocesean leadership should encourage and support principals' efforts to promote creativity at their school sites. The continued establishment of a diocesean-wide culture based on trust, respect, collaboration, and shared responsibility is a necessity (Berki, Isomaki, & Salminen, 2007 as cited in Kampylis, 2010). Principals identified that diocesan leadership seemed open to creativity, but reported no action due to greater needs in the diocese. Principals should continue to be given professional autonomy and flexibility in their implementation of instruction (Sawyer, 2004a, 2004b, 2010, 2011), and the curriculum should allow for spontaneous and less-rigid learning experiences (Sawyer, 2010, 2011; Kampylis, 2010). More emphasis should be placed on the cultivation of higher-order thinking skills, such as creative problem solving, and its incorporation into regular instruction across domains when adopting new texts and curriculum materials (Andiliou & Murphy, 2010).

The dilemma of valuing creativity yet feeling it cannot be supported due to time constraints with very specific minute requirements should be addressed. The development of creative thinking and problem-solving skills requires strategic adjustments in methods and tasks, rather than major changes in curriculum (Diakiody & Phtiaka, 2002). Administrators need to understand that supporting creativity and reaching other achievement goals could be complementary rather than contradictory so that they can support their teachers in approaching instruction in this way (Baer &

Garrett, 2010; Beghetto, 2007b). Students can and should learn required content while also enhancing their creative thinking. Principals need support from the diocese in understanding how traditional lessons can be transformed to include creativity building opportunities within the minute requirement framework provided to principals.

Assessment

The dioceses should continue to reassess and redefine the kind of assessments utilized at school sites. Creative thinking and behaviors are not measured on high-stakes tests (Makel, 2009; Moran, 2010). Test-based accountability to standards narrow the focus of the curriculum and strip it of its creativity (Beghetto, 2010a; Smith & Smith, 2010). While the use of standards and standardized tests should not automatically be considered bad for education or creativity (Baer & Garrett, 2010; Starko, 2005), the diocese should be mindful that its standardized tests need to reflect the kind of higher order thinking skills needed for creative problem solving. More work should be put into finding ways to assess creativity development within the diocese. The diocese may consider keeping its current computer-adaptive testing system while adding more opportunity for authentic assessment at school sites (Gardner, 1991, 2007; Treffinger, 2003). The diocese should investigate assessments that give insight to performance over time, including the use of portfolios. It should also provide supports and guidelines to principals about the kinds of local assessments that allow teachers to switch from assessing knowledge to assessing meaning-making (Blythe, 1998). The diocese may consider looking at the grade point scale as well as the required minutes for content instruction in an effort to promote flexibility in structures that would allow for creativity development within the school day. Schools need to encourage students to take

intellectual risks and explore their understandings. The diocese's assessments, both diocesean and local levels, grade point scales, and instructional minutes should reflect this need.

Recommendations for Research

There is a need to continue to explore the perceptions of Catholic parish elementary school principals toward creativity.

1. Replicate this study with teachers in the dioceses to compare principal and teacher perceptions.
2. Replicate this study with principals of Catholic elementary schools representing other (arch)diocese of the United States regarding their perceptions of creativity including larger samples in order to verify and extend the research findings.
3. Replicate this study with principals of Catholic high schools representing other (arch)diocese of the United States regarding their perceptions of creativity.
4. Conduct a study that includes school-site observations of a principal who describes him or herself as highly creative. This would illustrate principals' practices and broaden the basis for conclusions from the narrow criteria of principal self-reporting.
5. This study examined principals' beliefs of creativity in a specific time framework. A longitudinal study of principals' beliefs may offer more information about how thoughts on creativity change over time.
6. Survey teacher perceptions of creativity at their school as well as of their leadership's creativity in attempts to understand principal impact on the degree to which a culture of creativity is fostered at his or her school site.

7. Further research is needed on how the individual elements of the Investment Theory present themselves within the school setting and how they can be better formed and supported.
8. Research on diocese with creativity programs or structures.
9. Investigate the skills and dispositions that principals need in order to effectively promote school-site creative thinking.
10. Research on leadership preparation programs and the ways and extent to which they facilitate principal understandings of creativity and methods to foster creative thinking at school sites is needed.

Concluding Remarks

Attention paid to the importance of creativity has increased in recent years. For the past five years, Forbes magazine has released an annual list detailing the world's most innovative companies (Forbes Corporate Communications, 2015). Companies such as IDEO and Facebook are known for having creative work environments leading to innovative products (Lamb, 2015). Business leaders have also identified that adults entering the workforce today are not creative enough (Bloomberg, 2010; Jaschik, 2015). This trend in the business world has naturally entered into the field of education.

The educational research surrounding creativity that does exist focuses on the role of teachers and students the classroom level (Davies, Jindal-Snape, Collier, Hay & Howe 2013; de Souza Fleith, 2000; Karwowski, 2011). There is a serious gap in research on the role of the principal in supporting student creativity. Teachers have a more directly measurable impact on students than school leaders, but, Leithwood, Louis, Anderson, and Wahlstrom (2004) found that, in terms of student achievement and school-related factors,

classroom instruction was the only thing with a greater impact than the school leadership. Most school principals acknowledge that creativity is important, but there is little research concerning how to go about encouraging creativity from the school leader's perspective. It is possible that many principals feel hindered in their efforts due to perceptions of their own lack of creativity, a feeling that Kelley and Kelley (2013) suggested is common in adults. It is also possible that there simply is not enough time for them to think about one more instructional need in the midst of their managerial role.

Being creative or engaging in the process of creating novel ideas is a decision according to the Investment Theory of Creativity (Sternberg, 2002). The individual person makes a decision to invest in novel approaches that may not be immediately popular, which requires great perseverance. A creative person must persevere in order to convince others of their creative act and must consistently seek new ideas to pursue (Sternberg & Lubart, 1995, 1996). Creative individuals find unusual ways to solve problems, take risks, are confident enough to defy the predominant ideas of a group, and are motivated to overcome obstacles that others would not attempt (Sternberg & Lubart, 1996). Deciding to be creative does not guarantee creativity, but without this initial decision, it cannot occur (Johnson-Laird, 1988; Sternberg, 2012).

The six resources of the Investment Theory must come together in sufficient amounts in order for creativity to occur, according to Sternberg (2012). These resources include: (a) mixture of intellectual abilities including analytical, synthetic, and practical intelligence, (b) neither too much nor too little knowledge, (c) flexible thinking styles, (d) personal attributes that are predisposed to creativity such as openness and tolerance for ambiguity, (e) intrinsic motivation, and (f) a supportive environment. Differing amounts

of these resources within the environment impact the development of creativity. For example, without a certain level of content knowledge in science, an individual could not operate creatively within that content area (Jeon, Moon, & French, 2011). It is also important to note that these resources can interact with one another and multiply their effects. For example, a highly intelligent and motivated creator might be capable of greater creativity than someone of average intelligence and motivation might be.

Understanding that creators make the choice to be creative, we must examine the ways that schools prepare students to make those choices. Creative ideas are not always accepted in schools (Csíkszentmihályi & Wolfe, 2000). Creative individuals must be prepared to persevere in the face of a resistant environment in order to sell his or her idea to those who prefer things as they already are. The need for long-term perseverance in the making of creative work is one of the reasons why intrinsic motivation is supportive of creativity (Hennessey & Amabile, 1988, 2010). Is this really the environment we want to provide our Catholic students?

While teachers may generally appreciate creativity and have good intentions for further developing the creative potential of children, findings show they have little tolerance for manifestations of creativity in their classrooms (Andiliou & Murphy, 2010; Beghetto & Plucker, 2006; Chappel, 2007; Fleith, 2000; Runco, 2003b; Runco & Johnson, 2002). Teachers tend to minimize failure of all types, and the fewer mistakes that students make, the more successful the teacher is regarded (Davies, 2000; Kampylis, 2010). In contrast, creativity researchers assert that failure is part of the creative process, and that students should be encouraged to risk being wrong, cope with frustration and failure, and not feel guilty about their mistakes (Cropley, 2001 Kampylis, 2010;

Sternberg, 1996; Urban, 2007). Unexpected student ideas may be viewed as disruptive and are habitually dismissed, expressing concerns about going off task (Kennedy, 2005). These habitual dismissals discourage students from investing intellectual energy in their learning (Black & William, 1998; Kennedy, 2005). They may also explain slumps in student creativity as identified during their fourth year of school (Beghetto, 2007b; Cropley, 2001; Torrance, 1968).

While not directly, Catholic educators are called to teach in ways that inspire creativity. In, *Educating Today and Tomorrow: A Renewing Passion*, the CCE (2014) recognized that there are several current and future challenges to Catholic education in our global world as it continues to expand the breadth of available knowledge. It directs schools to respect students and to "enrich them, fostering creativity, imagination, the ability to take on responsibilities, to love the world, to cherish justice and compassion" (p. 13).

There is still much to be learned regarding the role of the principal and creativity in schools. Implicit theories can be problematic when teachers are unaware of their subjectivity and inconsistency (Kampylis, 2010) and can even facilitate or inhibit students' creative thinking unintentionally (Kampylis, 2010; Kowalski, 1997). As creativity continues to be a focus in both business and education, it is important that educational literature begin to close the research gap. The basis for studying creativity in schools exists and the call has been made for more research so that principals can knowledgeably work toward increasing creativity in their schools.

The outcome of creativity is the production of something that is novel and useful in some way. This may be an idea, a product, an experiment, or a delicious meal, among

many other things. These creative products may not be immediately valued in the existing environment, and the creator must find, persuade, or create a market for the useful new thing (Sternberg & Lubart, 1996). As the level of creativity increases, so does the sphere of possible influence of that creative idea. As educators, we enter into our vocation because we want to open doors, not close them for students. If we ignore the call to increase creativity in schools by alleviating misconceptions and removing barriers, we choose not only to close doors on our students, we also limit access to possible scientific, artistic, technological, and social breakthroughs that might change the world. Educational leaders must examine and understand how teachers conceptualize creativity in order for creativity to find a legitimate space in the classroom (Beghetto & Plucker, 2006). We are called by Pope John Paul II in cannons 793-821 of the Code of Canon Law in 1983, "to strive for complete formation of the human person" (Canon 795). If we ignore creativity in Catholic elementary schools, we deny all of our teachers, students, and selves, the opportunity to strive toward that complete formation of becoming the best version of ourselves possible, and most like the image on God. School climate begins with principals, which is with whom this research must continue to investigate.

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APPENDICES

Appendix A: Letter to Superintendent of Diocese

Dear Superintendent Lyons,

My name is Kellie Mullin. I have been an elementary school teacher for ten years, eight of which have been in Catholic Education. As you know, I have just completed my first year serving as the principal of St. Raymond School within the San Francisco Archdiocese in the 2016-2017 school year. I am also currently working on my doctoral dissertation in education at the University of San Francisco's School of Education Catholic Educational Leadership Program.

I am seeking to do research within the diocese during the month of December. This research would involve an online survey of elementary school principals, and would take about principals 20 minutes of their time to complete, in total.

The topic of the research I am conducting is on principals' perspectives of creativity within the instructional program. Essentially, I seek to learn what do principals believe to be creative thinking and creative instruction?

The information collected would be completely confidential and would not ask for any identifying information, such as name or school location. The results would be reported and summarized as a whole, and would not identify schools by name or other specific identifiers.

This research could be beneficial to the diocese by presenting it with a clearer picture of the instructional perspectives that principals within your diocese may hold regarding the phenomena of creativity, and may ultimately be useful in planning for in-service professional development for principals, ultimately bringing about deeper student learning and higher student achievement.

I have selected the San Francisco Archdiocese mainly due to the location within the Bay Area and the calendar days of instruction this year, as well as the unique characteristics of your district population. I am working with the support and guidance of my doctoral committee chairperson, Dr. Patricia Mitchell.

I eagerly look forward to completing research within your diocese and providing you with results that may prove useful in improving instructional practice. Please let me know if you need any other information.

Thank you very much,

Sincerely,

Kellie Mullin, MA

Catholic Elementary School Principal
Doctoral Student
Department of Leadership Studies
Catholic Educational Leadership Program
kellie.mullin@gmail.com
(510) 333-1871

Appendix B: Permission Letter from Superintendent

Pamela A. Lyons <LyonsP@sfarch.org> Mon, Dec 11, 2017 at 11:45 AM
To: Kellie Mullin <kellie.mullin@gmail.com>

Hi Kellie,

It is fine with me to send the survey.

Autumn Blessings,

Pam

Pamela Lyons

Superintendent of Schools

Archdiocese of San Francisco

CATHOLIC SCHOOLS
MARIN · SAN FRANCISCO · SAN MATEO

Department of Catholic Schools I sfarchdiocese.org/catholicschools

Phone: 415-614-5666I lyonsp@sfarch.org

Archdiocese of
SAN FRANCISCO

Appendix C: Principal Recruitment Letter

Dear Principal,

My name is Kellie Mullin. I have been an elementary school teacher for 8 years, 6 of which have been in Catholic Education. As some of you may know, I have just completed my first year serving as the principal of St. Raymond School within the San Francisco Archdiocese in the 2016-2017 school year. I am also currently working on my doctoral dissertation in education at the University of San Francisco's School of Education Catholic Educational Leadership Program.

I have received permission from Superintendent Lyons to conduct an optional survey within the diocese during the month of December, 2017. This research would involve you taking an online survey that would take about 20 minutes of our meeting time to complete.

The topic of the research I am conducting is on principals' perspectives of creativity within the instructional program. Essentially, I seek to learn what do principals believe to be creative thinking and creative instruction?

The information collected will be completely confidential and would not ask for any identifying information, such as name or school location. The results will be reported and summarized as a whole, and will not identify schools by name or other specific identifiers.

This research could be beneficial to the diocese by presenting it with a clearer picture of the instructional perspectives that principals within your diocese may hold regarding the phenomena of creativity, and may ultimately be useful in planning for in-service professional development for principals, ultimately bringing about deeper student learning and higher student achievement.

I have selected the San Francisco Archdiocese mainly due to the location within the Bay Area and the calendar days of instruction this year, as well as the unique characteristics of the district population. I am working with the support and guidance of my doctoral committee chairperson, Dr. Patricia Mitchell.

Participation in this survey is completely optional. I am happy to answer questions you have, and I greatly appreciate your time.

Thank you very much,

Sincerely,

Kellie Mullin, MA

Catholic Elementary School Principal
Doctoral Student
Department of Leadership Studies
Catholic Educational Leadership Program
kellie.mullin@gmail.com
(510) 333-1871

Appendix D: Principal Informed Consent Form

Informed Consent

The survey you are about to complete is for the purpose of my dissertation research on the topic of principals' perspectives on creativity in Catholic elementary education. Your thoughtful responses are very valuable to this research. It should take only about 20 minutes of your time to complete, in full.

Your responses to the survey will be kept completely confidential, and there are no personal identifiers on your survey instrument. The results of this research will be summarized as a whole, as so no persons will identify you or your responses, individually.

Your participation in the research study is completely voluntary, and you have the right to withdraw or refuse to participate at any time, with no negative consequences to you. There are no risks to you in participating in this study.

Your participation in this study will help to benefit students by contributing information to improve faculty and in-service training programs. Your participation may also help policymakers, curriculum designers, educational authorities and creativity researchers by providing valuable information on principals' perspectives.

Your initials here will indicate your willingness to participate. _____ Date:_____

If you would like a summary of the results of this research or would like to contact me for further information, you may reach me, the primary researcher, using the below information.

Thank you very much for your time and cooperation in this research!

Sincerely,

Kellie Mullin, MA

Catholic Elementary School Principal
Doctoral Student
Department of Leadership Studies
Catholic Educational Leadership Program
kellie.mullin@gmail.com

Appendix E: USF IRB Exemption Notice

To: Kellie Mullin
From: Terence Patterson, IRB Chair
Subject: Protocol #894
Date: 07/18/2017

The protocol **894. Principal Conceptions of Creativity Questionnaire** has been reviewed by the IRB chair and found not to require further IRB review or oversight as it is a simple survey designed to improve educational effectivemness.

Please note that changes to your protocol may affect its exempt status. Please contact our office to discuss any changes you may contemplate.

Sincerely,

Terence Patterson, EdD, ABPP
Professor & Chair, Institutional Review Board for the Protection of Human Subjects
University of San Francisco
irbphs@usfca.edu
USF IRBPHS Website

Appendix F: Survey Instrument

Principal Conceptions of Creativity Questionnaire

A Modification of Panagiotis Kampylis's *Teacher Conceptions of Creativity Questionnaire* published in Fostering Creative Thinking: The Role of Primary Teachers

A matter of opinion: The Catholic Principal's perception of creativity in elementary education

In general, we agree with some people and disagree with others. Read each item carefully and provide your personal responses. In questions about students, please respond having in mind your role as instructional leader of your school.

PART ONE:

Intro and welcome
Directions
Informed consent

PART TWO: Select Only One Answer AND Explain

1. A student **discovers** a new way to add three-digit numbers but the **strategy** does not lead to the correct solution. Would you consider this student creative?
    - Yes
    - No
    - *(Please specify your answer)*
2. Do you believe that a **classroom environment**, in which students work on projects at their own pace, promotes creativity?
    - Yes
    - No
    - *(Please specify your answer)*

PART THREE: Open-Ended Qualitative: Please describe your answer in detail.

3. Can you define one or more **traits** of a creative student? *(please describe)*
4. Can you define one or more **abilities** or **skills** of a creative student? *(please describe)*
5. How do you **define** creativity? *(please describe)*
6. Please describe one or more **examples** of creativity as manifested by students.
    - *(Please specify your answer)*
7. Indicate one or more **school assignments** or **tasks** you consider likely to promote students' creativity. *(please describe)*
8. Can you define one or more **techniques** used at your school to promote students' creativity. *(please describe)*
9. If you think the San Francisco Archdiocesan educational system requires changes in order to enhance students' creativity, what do you think these changes should be and why? If not, please explain your reasoning.

PART FOUR: Select Only One Answer AND Do Not Explain

10. To what degree (1-5) do you feel responsible for providing teachers with ongoing creativity training at your school site? *(please describe)*
11. With which of the following do you agree? *(please choose only one)*
    - Creativity can be developed in **every person**
    - Creativity can be developed only in people who are **creative by nature**

- Creativity is **innate**; it cannot be developed

12. Which of the following do you think is true? *(please choose only one)*
    - Creative **outcomes** are novel for the creator and the society
    - Creative **outcomes** are novel for the creator and the immediate social/peer group
    - Creative **outcomes** are novel for the creator
    - Creative **outcomes** are not necessarily novel
13. With which of the following do you agree? *(please choose only one)*
    - Students with high-level creative potential must attend **special programs** to enhance their potential
    - All students must attend **special programs** to enhance their creative potential
    - There is no need for **special programs**. The whole curriculum must promote creativity

PART FIVE: Likert-Type Quantitative

Please read each statement carefully and circle appropriately.

1 strongly disagree, 2 disagree, 3 agree, 4 strongly agree

14. People can **recognize** and often **agree on** creative outcomes, even when they offer different definitions for creativity
15. **Social** and **environmental factors** influence creative performance
16. There is a positive link between **creativity** and **intelligence**
17. It is possible for a very **intelligent person** not to be creative
18. There is a link between **creativity** and **humor**
19. **Self-confidence** is a basic characteristic of a creative person
20. **Information and Communication Technologies** can liberate a person's creative potential
21. A creative person is not afraid to make **mistakes**
22. **Problem finding** is more creative than problem solving
23. A creative person produces a lot of **questions**
24. A person must have **prior knowledge** in a domain in order to manifest creativity
25. **Co-creativity** is more important and valuable than individual creativity
26. **A creative outcome** is more a result of hard and continuous work and less a result of an insight
27. Creativity is a key factor for **social** and **personal evolution**
28. **Intrinsic motivation** is more important than external factors in creativity
29. Creativity is a characteristic of **all students** and it is not a rare phenomenon
30. Some students are **more creative** (in a quantitative way) than others
31. The most creative students have best **grades** in school
32. The most creative students often face **obstacles** in school
33. Students have a lot of **opportunities** to manifest their creativity in school
34. Students have a lot of **means** to express their creativity in school
35. Students are more creative when they feel **intrinsically motivated**
36. Students have many opportunities to manifest their creativity **out of school**

37. Students need more opportunities to use their **hands** creatively
38. Students need to **feel comfortable**, physically and psychologically, to focus on creative tasks
39. A student could manifest his/her creativity in a variety of **domains** and in a variety of **ways**
40. Creativity can be **taught**
41. My **role** as instructional leader will be to promote students' creativity
42. I feel well-trained to **promote** creativity to my students
43. I feel well-trained to **recognize** creative achievements of my students in many domains or subjects
44. I feel well-trained to **assess** creative products of my students
45. I can serve as a **role model** for creativity
46. The **school** is the best environment for students to manifest their creativity
47. The **San Francisco Archdiocesan Curriculum Frameworks** allows for the manifestation of students' creativity
48. The San Francisco Archdiocesan approved **textbooks** end **educational materials** in general allow for the manifestation of students' creativity
49. A **school environment** which emphasizes competition, evaluation and conformity discourages the manifestation of students' creativity
50. Most of school **assignments** demand creative responses
51. Students have enough **time** to manifest their creativity in the classroom
52. The **class environment** is a key factor for the manifestation of students' creativity
53. Team-work and collaborative learning facilitate **collaborative creativity**

PART SIX: Demographics

54. Gender
55. Age in years
56. Highest degree earned
57. Years of experience teaching
58. Years of experience as an administrator
59. Extra-curricular studies/hobbies:
60. I want to be informed of the results
    - Yes (please give your e-mail address)
      No

Appendix G: Permission to Use and Modify Survey Instrument