

THE RELATIONSHIP OF CREATIVITY
AND ADAPTABILITY TO
TEACHING EFFICACY

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CHAPTER I

INTRODUCTION TO THE STUDY

Every school district has teachers who are strict, loved by students, respected by colleagues, and willing to work hard to ensure that students are getting as much as possible out of their education. In spite of recent critical press (Monroe, 2009; Samuels, 2011), the educational system throughout America is full of quality teachers (Klein, 2011; Palmer, 2003). But with all the criticism, reorganizing, and views of what needs to be done, one idea remains consistent for the future of educators. The current field of instructors will be teaching new methodologies, utilizing new techniques, and facing more obstacles both financially and environmentally than ever before.

Research on teaching effectiveness has been conducted steadily over the years as evidenced by more than 20,000 journal articles produced from a search on Education Research Information Center (ERIC). One consistent finding in the research is that self-efficacy is associated with teacher effectiveness in the classroom. The belief that teachers have about their teaching ability (teaching efficacy) appears to play a major role to determine the type of instructor they are or will be. Teaching self-efficacy has been shown to be an important variable in teacher education (Cakironglu, 2008) and related teaching effort and teacher determination in the face of difficulties (Soodak & Podel, 1993). Furthermore, teacher self-efficacy has been found to be related to the well-being of the school organizational (Hoy & Woolfolk, 1993), to classroom based decision-making (Moore & Esselman, 1992), to teachers' eagerness to raise probing questions and to students' achievement and effective growth (Tschanen-Moran & Hoy, 1998).

When teacher education students leave college to enter the teaching field, they have idealistic dreams of being in a classroom full of wonderful students who will be on the edge of their seat yearning to learn the vast and complex knowledge the teacher has to offer them. Then the beginning teachers enter the real world of elementary and secondary education. Many times this reality includes students who are not motivated in the classroom, disruptive students, students bored with today's style of education, or students who want a grade without having to learn or work for it. Some teachers never adjust to the reality of the school environment and will continue to struggle within the classroom, with administrators, and with themselves, or they move on to another form of employment (Glickman & Tomashiro, 1982). Some will return to the way their former instructors taught them. Some will experience teacher burnout which has been shown to be moderately related to teacher self-efficacy (Chwalisz, Altmaier & Russell, 1992; Evers, Brouwers, & Tomic, 2002; Friedman & Farber, 1992). While others find within themselves an ability to rise to the task of educating young people and will discover a quality that will enable them to take control, produce positive results, and come away with an experience that is positive for both the instructor and the student (Block & Burns, 1976; Guskey & Gates, 1986).

Every fall term, teachers fresh out of college and many with twenty-plus years of experience will step into their classrooms ready to educate today's students. Each of these teachers bring to the classroom a belief about his or her teaching ability. Some enter the classroom eager to begin their work, excited to see the students, and ready to get the school year started. Some come into the classroom with some apprehension, maybe a little doubt in their ability. While others come into the new school year ready to continue

what they have done every year, the same assignments, the same videos, and the same lectures. The ability of teachers to enact new ideas and adapt to new regulations, new students, or new innovations in instruction may be related to their perceptions of their teaching ability (Guskey, 1988). Little is known about the process for achieving efficacy in teaching and its relationship to other traits, such as ideation and adaptability, which might facilitate teaching efficacy and therefore effectiveness. Therefore, the purpose of this study was to determine the relationship of creativity, defined as ideation, and adaptability, defined as change, to teaching self-efficacy.

Although there are many definitions of creativity, most have two basic components to have an action or product that is unusual or unique (novel) and that the action or product is useful or valuable (Cropley, 1999). In the classroom creativity is a unique ability to bring fresh ideas to increase interest in the subject so students are capable of understanding and retaining the information from the instructor. When the word creativity comes up in discussion among educators, most will relate creativity to the arts and not to their own professional actions. Research has shown the importance of creativity in all content areas. Teachers are being urged to utilize creativity in science (Hong & Kang, 2008; Longo, 2010; Newton & Newton, 2010), math (Lonergan, 2007; Megnin, 1995) and English literature (Gemmell, 2008; Hammond, 2009). With this research in mind, it is apparent that creativity is an important tool in the classroom.

Being able to adapt to new teaching tools, techniques, and theories may be another key component to building self-efficacy. Teachers normally search out techniques with which they feel the most comfortable. Often, these techniques of comfort may not be effective when it comes to transferring or transforming vital

information to their students. Creative and innovative methods such as collaborative learning environments (Dillenbourg, 1999), different techniques in scaffolding (Pea, 2004) and the use of reflection in the classroom (Douillard, 2002) are important and diverse tools to be fully implemented by teachers everyday. Some methods work better in one class or with one student than another. Therefore, adaptability characteristics of teachers are essential on both the student and program level. Teacher must be flexible so that curriculum can be constructed with lessons that are of high interest to their unique group of students to engage them in creating knowledge (Ede, 2006).

There have been numerous studies, such as those by Block and Burns (1976), Bloom (1968), Guskey and Gates (1986), Guskey (1988) and Sparks (1983) that emphasize teachers' ability to adapt the use of new material in the classroom through professional development. Yet, how teachers view the concept of change as either an enriching or a normal process is not as well known. Perceiving change as a positive and enriching aspect of the ever-changing classroom environment (Soh, 1985) can be something that teachers can make overt in their teaching practice in a more personal way as they examine and reflect on their teaching styles and their use of materials available to them.

The research of Soh (1985) had as its focus teacher change, responsibility, and behaviors. An important outcome of this research is the instrument developed for classroom study of perceptions of change. Soh created a change assessment scale to measure teacher acceptance of changes in life as normal happenings and feelings toward change as enriching life experience. This measure is valuable to determine teacher ability

to adapt to the changes that take place with students, methods in the classroom, and adaptability to changes in teaching theories or techniques.

Statement of the Problem

Creativity and adaptability to innovation appear to be important in today's educational environment. The relationship of creativity and adaptability to self-efficacy may lead to better understanding of the qualities needed in today's educators.

Theoretical Framework

The theoretical framework of interest for this study was the theory of self-efficacy (Bandura, 1977). Bandura first posed the construct of self-efficacy as "the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations" (Bandura, 1995, p.2). Bandura's definition was taken a step further by Evers, Brouwers, and Tomic (2002) with the clarification that "Self-efficacy beliefs, however, do not refer to one's capabilities but rather to what someone believes he or she is capable of regardless of actual capability or skills that he or she actually possesses" (p. 229). Self-efficacy is not self-esteem or self-concept, but rather a judgment of task-specific capabilities that is based on accomplishments and success and failures. Self-esteem is a more general affective evaluation of the self (Linnenbrink & Pintrich, 2002).

Self-efficacy was first linked with teaching by Ashton and Webb (1986) when they utilized Bandura's theory to define teacher self-efficacy. They proposed two teaching elements with general teaching efficacy and personal teaching efficacy. General teaching efficacy relates to the teachers belief in being able to bring about a desired outcome related to student learning despite constraints such as family background.

Personal teacher self-efficacy relates to the expectations of an individual teacher in relation to his/her own ability to influence student learning.

Bandura points out that there are four major sources of self-efficacy: (1) mastery experience, (2) vicarious experience, (3) social persuasions, and (4) physiological and affective states. Mastery experience is a source which refers mainly to teachers with classroom experience. They can either build upon self-efficacy with the success they have experienced in the classroom with students being successful in their learning. Or, they can witness a lower self-efficacy if they have experience failure in what they have perceived to provide to the student. Mastery experience relates to how teachers reflect upon their past experiences and how they use that experience to either boost or lower their self-efficacy. Bandura hypothesized that interpretations of past performance serve as a robust indicator of self-efficacy, a finding that has been confirmed in studies of the sources of students' self-efficacy (Usher & Pajares, 2008).

Vicarious experience relates to both new and experienced teachers as experience is gained through the observation of success or errors made by their colleagues. In many situations teachers learn from another teacher's experiences in the classroom and either use or not use this learning experience in their classroom. For teachers, the combination of successful past experience, verbal support from principals, students, peers, and parents, and opportunities for observation of successful peers builds self-efficacy for teaching (Tschannen-Moran, Woolfolk-Hoy & Hoy, 1998).

The third source of self-efficacy is social persuasion. All teachers are evaluated for their performance and the performance of their students. They receive feedback from

parents, students, and other teachers about how they are progressing, situations that boost their self-efficacy or lower their self-confidence. This is true with all outcomes of the evaluation. As teachers receive positive evaluations their confidence and self-efficacy increases, while just the opposite can happen with a negative evaluation.

Finally, there is a physiological and affective state in which the teacher begins to either feel he or she is successful and therefore self-efficacy increases or becomes stressed over the job of teaching. Teachers may begin to feel they do not have the mentality or skills to be a teacher. Research shows teacher's self-efficacy beliefs have a crucial role in affecting and sustaining their commitment to school and their job satisfaction (Caprara, Barbaranelli, Borgogni, Petitta, & Rubinacci, 2003). With a negative mental approach their job performance will suffer and their self-efficacy will decrease.

Self-efficacy in relation to self-esteem is determined by the way in which teachers approach a task. Teachers with a low self-esteem avoid challenging tasks; believe that difficult tasks and situations are beyond their capabilities, focus on personal failings and negative outcomes (Cherry, 2011), and quickly lose confidence in personal abilities (Bandura, 1994). Teachers with low self-efficacy experience greater difficulties in teaching, lower levels of job satisfaction, and higher levels of job-related stress (Betoret 2006). Teachers who have a low self-efficacy teach in a more traditional way with teacher-directed methods specifically lecture and textbook reading (Czernaik 1990). Teachers with less teaching efficacy direct more frequent criticism toward students making mistakes and are more susceptible to becoming frustrated when classroom routines are not followed (Gibson & Dembo, 1984; Woolfolk, Rosoff, & Hoy, 1990).

Novice teachers who are more efficacious tend to have a greater commitment to teaching than those who are not as efficacious and thus are more motivated to remain in the teaching profession (Whittington, McConnell, & Knobloch, 2003).

Instructors with high self-efficacy are said to view challenging problems as tasks to be mastered, to develop deeper interest in the activities in which they participate, to form a stronger sense of commitment to their interests and activities, and to recover quickly from setbacks and disappointments (Cherry, 2011). Studies have shown that teachers with high efficacy produce students that have outperformed students who had teachers with lower levels of self-efficacy on the mathematics section of achievement tests (Moore & Esselman, 1992). Teachers with high levels of self-efficacy set higher goals and maintain a strong commitment to their goals (Bandura & Wood, 1989; Locke, Frederick, Lee, & Bobko, 1984). Other studies demonstrated that teachers with high levels of self-efficacy work longer with students that struggle, recognize student errors, and attempt new teaching methods that support students. (Ashton & Webb, 1986; Gibson & Dembo, 1984; Guskey, 1988). Teachers with a high sense of efficacy feel a personal accomplishment, have high expectations for students, feel responsibility for student learning, have strategies for achieving objectives, a positive attitude about teaching and believe they can influence student learning (Ashton, 1984). Teaching self-efficacy is of great importance to the profession and more research is needed to determine its relationship to creativity and adaptability.

Purpose of the Study

The purpose of this study was to determine the relationship of creativity and adaptability to the teaching efficacy for elementary and secondary teachers. The Runco

Ideational Behavior Scale (RIBS; Runco, 2000) was used to determine the self perceptions of generating creative ideas (creativity). The Soh Change Scale (Soh, 1985) was used to determine perceptions of change as normal and/or enriching (adaptability). The Teacher Sense of Efficacy Scale (TSES; Tschannen-Moran & Woolfolk-Hoy, 2001) measured the variable of self-efficacy.

Research Objectives

The following research questions guided this study:

1. What is the reliability of the subscales and total scores for the measures of creativity (defined as ideas and behaviors), adaptability (defined as normal and enriching change), and teaching self-efficacy (defined as student engagement, classroom management, and instructional strategies)?
2. What is the correlation between relevant total scores and all scores of subscales (ideation creativity, behavioral creativity; normal change, enriching change; instructional strategies, classroom management, and student engagement)?

Definitions

Teacher Self-Efficacy: The teacher's belief in his or her own capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context (Tschannen-Moran, et al., 2001).

Student Engagement: Student engagement is primarily and historically about increasing achievement, positive behaviors, and a sense of belonging in the classroom (Harris, 2008; Willms, Friesen, & Milton, 2009).

Classroom Management: Classroom management involves awareness, good organizational skills, preparation, letting students know what is expected of them and following through, and the ability to diagnose student problems (Brophy, 1982).

Instructional Strategies: Instructional strategies determine the approach for achieving the learning objectives and are included in the pre-instructional activities, information presentation, learner activities, testing, and follow-through. The strategies are usually tied to the needs and interests of students to enhance learning and are based on many types of learning styles (Ekwensi, Moranski, & Townsend-Sweet, 2006).

Creativity: Ideation is measured by the Runco Ideational Behavior Scale (Runco, 2000) and is based on the belief that ideas can be treated as the products of original, divergent and creative thinking.

Adaptability: Adaptability is defined as the perceptions of change as measure on the Soh Change Scale that was developed by Kay-Cheng Soh. The Change scale measures the teacher's acceptance of changes in life as normal happenings; and feelings toward change as enriching life experience (Soh, 1985).

Assumptions

For the purpose of the study the following assumptions were made:

1. The respondents provided true and accurate responses to the questionnaire.
2. The respondents were fully certified to teach Pre-K through Grade 12 in the state of Oklahoma.
3. The respondents were full-time public school teachers in Oklahoma.

CHAPTER II

REVIEW OF LITERATURE

The purpose of this study was to determine the relationship of creativity and adaptability to the teaching efficacy for elementary and secondary teachers. This study looked at creativity through the work of Mark Runco a leader in the research of creativity as ideation and how it relates to the student and the teacher. Adaptability as change in the work of Kay-Cheng Soh the creator of the Soh Change Scale which studies change being either enriching or tolerating the normal. I furthered my study on adaptability reviewing the work of Allinder (1994), Ghaith and Yaghi (1997), and Guskey (1984, 1988). There is a desire to discover how students learn so instructors can do a much better job of presenting the information to students. There is a great interest in different teaching techniques and the acceptance of these techniques. No matter the case, self-efficacy is a main topic of discussion in the educational field.

Creativity

Creativity is a unique and artistic way of utilizing one's imagination and taking that imagination to the next level of thought by bringing about fresh and inspiring methods in presenting material of learning. For an instructor who desires to seek creativity within his or her students and to actually induce and encourage creativity in the

classroom the instructor needs to understand what creativity is, how to recognize it, and then how to support it and have it continue (Runco, 2003). A teacher needs to realize that the students own creativity is important. A child's potentially creative work might very well be original and adaptive only for that individual child but unoriginal when compared with ideas or insights that other individuals have had. A child's creativity can be quite personal (Runco, 2003).

Some researchers consider creativity as an indefinable concept (Bohm, 1998; Craft, 2003). Creativity should be considered as an open-ended and inherently indefinite concept (Craft, 2003). Many researchers agree that creativity needs to have originality (Runco, 2003).

Creativity is increasingly considered an important skill for all to acquire (Craft, 2003; Sawyer, 2004; Strom & Strom, 2002), and should be treated with the same status as literacy (Robinson, 2006). In a study on the teaching of thinking skills might contribute to an improvement in creativity, Ristow (1988) found that "direct teaching of creative skills can produce better, more creative thinkers" (p. 44). Ristow determined that their ability to think "in new ways" and "to create new, original ideas" improve with just a few hours of teaching (p. 46). Teachers' creativity plays an important role in developing students' creativity (Runco, 2006) and creativity is now being looked upon as an important part of the educational process.

Creativity and Teaching

A creative teacher is one who can utilize existing knowledge and present it to the student in a novel and unique way by introducing a process that generates positive results from the student. Teachers can be creative no matter what the subject is. Creativity can

be a planned event, such as a field trip, making homemade ice cream to demonstrate how the chemical reaction takes place with rock salt, to even playing a game of pool to show how for every action there is a resulting re-action. Creativity is something researchers agree upon as being a very important part of education.

Research (Jeffery & Craft, 2006; Woods, 1995) has found that creative teachers are innovative pushing the boundaries of the conventional through new combinations, either planned or serendipitous. Creative teachers take ownership of the knowledge, either changing or modifying curriculum to address the specific needs of the students and/or the educational goal. Creative teachers exercise control over the teaching processes involved with having a need for choice and the power to make it through practical involvement. Creative teachers operate within a broad range of accepted social values while being attuned to student cultures. The work of Woods and Jeffery (1996) provides information that creative teachers tend to be independent having a mind of their own, but are strongly collaborative. They have a humanist approach as they are focused on the student as a developing person and are guided by a strong moral purpose with clear values. Creative teachers demonstrate concern for equity and are teacher, as well as, student centered as they create an atmosphere to insure learning and engagement. They use firm control that is tintured with care and exhibit a strong emotional investment in teaching as they are passionate about their work. In addition, creative teachers engage and encourage possibility thinking posing questions that assist in the exploration of a problem space and cultivate an exploratory attitude (Jeffrey & Craft, 2006). Creative teachers promote learner exclusivity being open to hearing student perspectives on their learning and take their ideas seriously (Craft, 2008).

In an effort to better understand creativity in terms of production of ideas, I looked into the research of Mark Runco, Ph.D., director of the Torrance Center on Creativity at the University of Georgia, who has written more than a dozen books and published more than 2000 articles on the subject of creativity. In his writings, Runco points out that one of the most important trends suggests that creativity research is becoming more rigorous. Rigor, in the scientific sense, specifically refers to objectivity indicating that there is more quality control, more agreement about technique to ensure that empirical work is reliable and valid and less opportunity for bias and unjustified speculation (Runco, 2003). Runco's work has led to the theory of a child's potentially creative work might very well be original and adaptive (both thought to be requirements of creativity) only for that individual child but unoriginal when compared with ideas or insights that other individuals have had. A child's creativity can be quite personal (Runco, 2003). A teacher's creativity plays an important role in developing students' creativity (Runco, 2006). Teacher creativity is needed in order to be more effective in the enacting strategies in line with the current thinking of learning. The rising paradigm of student-centered constructivism requires teachers to modify curricula to meet the interests and needs of their particular students (Windschitl, 2002). The ability to adapt these general principles to specific instructional situations depends upon teachers' creativity (Rejskind, 2000).

These studies did not look at the relationships between creativity as ideas or behaviors to teacher's sense of efficacy and the three areas of instructional strategies, classroom management and student engagement.

Adaptability

A teacher's ability to adapt to a constantly changing teaching environment and new or different methodology of instruction strongly relates to their self-efficacy (Berman, Bass-Golod, McLaughlin, Pauly, & Zellman, 1977; Guskey, 1988).

The work of Berman, McLaughlin, and Zellman (1977) studied federally funded programs used to support educational change pointing out factors affecting the implementation and continuation of the programs once federal funding was no longer available. The study reviewed external factors of parent support groups and the support for continuation of the programs by the schools administration and classroom teachers. The study showed that teachers with a high sense of efficacy continued using the programs. But the study does not show how adaptability through change relates to teaching efficacy.

Guskey (1988) has been a leader in the research of adaptability of teachers to implementing new forms of instruction in the classroom. The decision to try recommended practices is generally a conscious one made by the teacher unless the practice is mandated. Understand what factors influence those decisions are important (Guskey, 1988). Research has shown that a higher sense of self-efficacy relates to an increase teacher acceptance to new ideas and greater willingness to experiment with and adopt teaching innovations to meet the needs of students (Allinder, 1994; Ghaith & Yaghi, 1997; Guskey, 1984, 1988). Allinder (1994) studied the relationship between efficacy and selected instructional variables to explore two types of special education teachers either as direct service providers or as indirect service providers. Ghaith and Yaghi (1997) studied the relationships among teaching experience, efficacy and attitudes

toward the implementation of instructional innovation. Their research determined teaching experience was negatively correlated, personal teaching efficacy positively correlated, and general teaching efficacy not correlated with teachers' attitudes towards implementing new instructional practices. Guskey's (1984) study assessed the influence of positive change in instructional effectiveness on several affective characteristics of teachers. Comparisons made through MANOVA procedures showed that those teachers who experienced positive change in the learning outcomes of their students' expressed increased personal responsibility for both positive and negative student outcomes, increased affect toward teaching, but decreased confidence in their teaching abilities. Guskey (1988) continued his research with teacher efficacy with an exploratory study designed to investigate the relation between selected teacher perceptions past research has shown to be shared by highly effective teachers, and teacher attitudes toward the implementation of new instructional practices. Guskey's results showed that measures of teacher efficacy, teaching affect, and teaching self-concept were significantly related to teachers' attitudes regarding the congruence, difficulty of use, and importance of the recommended practices. Guskey's research supports previous studies showing that there may be additional reasoning behind why teachers were unable to implement new strategies. Doyl and Ponder (1977) suggested that instrumentality, congruency and cost may influence a teacher's decision regarding the implementation of recommended practice. In a comparison study results were analyzed from five teacher effectiveness experiments Mohlman, Coladarci, and Gage (1982) concluded that all three of these criteria did indeed influence a teacher's degree of implementation of a new program or instructional innovation.

My study differs from previous studies as I look at the relationships of adaptability as change and teaching sense of efficacy. I examine the relationships of adaptability as change being either normal or enriching to a teacher's sense of efficacy in three areas: instructional strategies, classroom management and student engagement. The study also looks at the possible relationships of adaptability through change as being either normal or enriching to creativity in the classroom through ideas or behaviors.

Adaptability and Teaching

The study of adaptability in education has taken place over several years. Paul Mort and his associates began to study the adaptability of schools in the 1930s and 1940s (Harrah, 1990). Research on receptivity and adaptability continued with Rogers (1962) as there were three main reasons that determined whether or not a teacher was receptive to change being an absence of a scientific source of innovations in education, to a lack of change agents to promote educational ideas and finally a lack of an economic incentive to adopt new innovations.

Research has changed over the years as the focus has moved from the teacher to the student. But it is the teacher who has to initiate this change. Teachers who are open to new ideas and are willing to experiment with new teaching innovations have a higher sense of self-efficacy (Allinder, 1994; Ghaith & Yaghi, 1997; Guskey, 1984, 1988). Teaching self-efficacy has been related with factors related to reform-oriented education, including greater use of hands-on teaching methods and less use of teacher-directed whole-class instruction (Ashton & Webb, 1986). Teachers' self-efficacy beliefs are therefore critical in the development of a young person's own self-efficacy towards thinking (Thomas & Walker, 1997). It has been shown that teachers who display a

higher confidence in their skills are normally more receptive to the application of novel instructional practices (Morrison, Wakefield, Walker, & Solberg, 1994). Self-efficacy needs to be raised in order for teachers not only to teach higher order thinking but also to demonstrate clearly to young people how these skills may be transferred from the relatively protected world of the classroom to the real world beyond school (Tebbs, 2000).

Allinder (1994) studied the relationship between efficacy and selected instructional variables for two types of special education teachers. Teachers were categorized either as direct service providers, who provided direct instruction or behavioral interventions to students with mild disabilities, or as indirect service providers, who spent at least 50% of their time consulting, collaborating, or team teaching with general educators. Significant positive correlations were found between efficacy and three instructionally-relevant factors for both types of teachers. Type of service was related to only one instructional component, Instructional Experimentation.

Ghaith and Yaghi (1997) studied the relationships among teaching experience, efficacy and attitudes toward the implementation of instruction innovation. Their research determined teaching experience was negatively correlated, personal teaching efficacy positively correlated, and general teaching efficacy not correlated with teacher's attitudes towards implementing new instructional practices.

Guskey (1988) performed a similar experiment using tools suggested by Doyle and Ponder (1977) as the three criteria influencing teachers' decisions regarding the implementation of recommended practices which were *instrumental* (how clearly and specifically the practices are presented), *congruence* (how well the new practices are

aligned with the teacher's present teaching philosophy) and *cost* (the teacher's estimate of the extra time and effort the new practices required compared to the benefits such practices are likely to yield). Guskey examined the study of Mohlman, Coladarci and Gage (1982), a study similar to his, finding support to Doyle and Ponder's work suggesting all three criteria did influence a teacher's degree of implementation of a new program or instructional innovation. Later, the work of Sparks (1983) hypothesized an addition of two more criteria with *importance* (teachers' perception of the new practices) and *difficulty of use* (their perception of how easy the new practice was to implement). My study is similar as I investigate relationships between the implementation of recommended practices as adaptability, otherwise known as change, to teaching sense of efficacy in the areas of instructional strategies, classroom management and student engagement.

Guskey (1988) noted through his writings that highly efficacious teachers with extremely high confidence in their instructional methods feared change for it might threaten the positive results they typically attain with students. This fear could be a result of moving from their comfort zone of what they have done in the past to a fear of not being able to adapt to a new style of teaching because of their lack of knowledge, or possible conflicts with their teaching environment.

Results from a more recent study Woodbury and Gess-Newsome (2002) of personal factors of teachers found that teacher thinking was the most promising construct for understanding the change in teaching practices. They believed that teacher's abilities and/or inclinations to learn and relearn conceptions of content, learning, and teaching present the most profound influences shaping the change of teaching practice. Additional

research on teacher thinking has provided evidence of a link between teachers' thinking, their knowledge and beliefs, including their thoughts on being able to teach differently (Cohen & Ball 1990; Cooney & Shealy 1997; Gess-Newsome, 1999; Shulman, 1987; Smylie, 1988). Adaptability is crucial for optimal student learning because adaptations promote student engagement, processing, and critical thinking (Darling-Hammond & Bransford, 2005). Yet, the ways that adaptability and creativity might relate to teaching efficacy has not been examined.

Summary of Relevant Literature

Self-efficacy is a part of every teacher's framework. Teachers with low self-efficacy experience greater difficulties in teaching, lower levels of job satisfaction, and higher levels of job-related stress (Betoret 2006). Teachers who are dissatisfied with their work display lower commitment and are at greater risk for leaving the profession (Evans, 2001; Ingersoll, 2001). Teachers with a high sense of self-efficacy tend to be more enthusiastic in teaching (Allinder, 1994; Guskey, 1984), more committed to teaching (Coladarci, 1992; Evans & Tribble, 1986), and more likely to stay in teaching (Glickman & Tamashiro, 1982).

Creativity is an important part of a teacher's ability to present educational material to the student producing a positive outcome. Creative teachers are innovative (Jeffery & Craft, 2006; Woods, 1995), take ownership of knowledge by either changing or modifying curriculum to address a student's needs or goals and exercise control over the teaching process (Woods, 1995). Creative teachers tend to be independent yet strongly collaborative (Woods & Jeffery, 1996). Creative teachers promote learner

exclusivity and take students ideas seriously (Craft, 2008). A teacher's creativity plays an important role in developing students' creativity (Runco, 2006).

A teacher's ability to adapt to a constantly changing teaching environment and new or different methodology of instruction strongly relates to their self-efficacy (Berman, Bass-Golod, McLaughlin, Pauly, & Zellman, 1977; Guskey, 1988). The decision to try recommended practice is generally a conscious one made by the teacher (Guskey, 1988). Research has shown that a higher sense of self-efficacy relates to an increase teacher acceptance to new ideas and greater willingness to experiment with and adopt teaching innovations to meet the needs of students (Allinder, 1994; Ghaith & Yaghi, 1997; Guskey, 1984, 1988). Research by Rogers (1962) presented three main reasons that determined receptivity to change being an absence of a scientific source of innovation in education, a lack of change agents to promote educational ideas and a lack of an economic incentive to adopt new innovations. Guskey (1988) noted that highly efficacious teachers' feared change for it might threaten the positive results they typically attain with students. .

CHAPTER III

METHOD

The purpose of this study was to determine the relationship of creativity and adaptability to teaching self-efficacy for elementary and secondary educators. This chapter details the participants, instruments, procedures and data analysis conducted for the study.

Participants

The participants were instructors from four selected Oklahoma schools (N=34) who teach classes Pre-K through 12. These schools were conveniently selected because I had contacts within each of the schools. The four selected schools taking part in the study were elementary and high schools in northeastern Oklahoma. An elementary and high school, School A, with a student population of 290 in grades Pre-K through 12 and a certified staff of 21 instructors (Oklahoma Webschoolpro, 2012) had a 14.3% participation rate with three instructors taking part in the study. A high school, School B, has a student population of 502 in grades 9 through 12 with a certified staff of 37 instructors (Oklahoma Webschoolpro, 2012). This school achieved a 13.5% participation rate with five instructors taking part in the study. An elementary school, School C, with a student population of 332 in grades Pre-K through five with a certified staff of 32 instructors (Oklahoma Webschoolpro, 2012) had a 15.6% participation rate with five instructors taking part in the study. Another elementary and high school, School D, with a student population of 451 in grades Pre-K through 12 and a certified staff of 35 instructors (Oklahoma Webschoolpro, 2012) achieved a 60% participation rate with 21

instructors taking part in the study. Of the possible 125 certified instructors to draw from, there were 34 total participants resulting in a participation rate of 27.2%.

Instruments

Three instruments were used to measure the study variables of teacher creativity, teacher adaptability, and teacher sense of efficacy.

Teacher Sense of Efficacy Scale

The Teacher Sense of Efficacy Scale (long form; TSES) was developed by Megan Tschannen-Moran, College of William and Mary and Anita Woolfolk-Hoy (2001). The TSES contains 24 items with eight items in each of three subscales, efficacy in instructional strategies, efficacy in classroom management, and efficacy in student engagement. The scale was based on a nine-point Likert-type scale reflecting: 1-Nothing, 3-Very Little, 5-Some Influence, 7-Quite a bit, 9-A Great deal (Tschannen-Moran & Woolfolk-Hoy, 2001).

Each of the subscales consisted of eight items with Student Engagement consisting of items 1, 2, 4, 6, 9, 12, 14 and 22. The subscale Instructional Practices consisted of items 7, 10, 11, 17, 18, 20, 23, and 24. The subscale Classroom Management consisted of items 3, 5, 8, 13, 15, 16, 19 and 21 (Tschannen-Moran & Woolfolk-Hoy, 2001). Validity was established through a panel of experts comprised of the Oklahoma State University Department of Education Psychology faculty. Reliability was established with Teacher Sense of Efficacy Scale through each subscale. The subscale of Instructional Strategies had a reliability coefficient of .832, the subscale of Classroom Management had a reliability coefficient of .856, and the subscale of Student Engagement had a reliability coefficient of .893. The total reliability coefficient for

Teacher Sense of Efficacy Scale was .860. The total reliability coefficient for Teacher Sense of Efficacy Scale was .905.

Runco Ideational Behavioral Scale

The Runco Ideational Behavior Scale (Runco, Plucker, & Lim, 2000) was used to determine teacher creativity. Mark A. Runco and Jonathan A. Plucker created an initial item pool of approximately 100 items. After removing redundancies, they arrived at an instrument of 93 items, with approximately one third of the items reverse-coded and a response scale ranging from 1 (*never*) to 5 (*very often*). The original goal was to create an instrument that contained many different kinds of ideational behaviors, but initial analysis of pilot administration data suggested that the items were in fact too diverse (i.e., exploratory factor analyses showed the existence of one strong factor and more than 12 un-interpretable factors). A prior item selection, which tightened the focus on the items that explicitly reflected ideation, produced a pool of 24 items. Factor analysis of the corresponding data from the initial sample produced interpretable loadings for 23 of these items. (Runco, Plucker, & Lim, 2000) The RIBS contains 23 items broken down into two subscales, Ideation and Behaviors used to create ideas. The scale was based on a five-point Likert type scale reflecting: 1=Never, 2=Very Little, 3=Sometimes, 4=Quite a Bit and 5=Very Often (Runco, Plucker, & Lim, 2000). The first subscales consisted of seventeen items with Ideation consisting of items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 19, 20, 21, 22, and 23. An example would express the teacher's ability to come up with a lot of ideas or solutions to problems. The subscale Behaviors consisted of six items consisting of items 11, 14, 15, 16, 17, and 18. An example would show the level of which the teacher sometime would get so interested in a new idea that they forgot about

other things that they should be doing (Runco, Plucker, & Lim, 2000). Validity was established through a panel of experts comprised of the Oklahoma State University Department of Education Psychology department faculty. Reliability was established with Runco Ideational Behavior Scale through each subscale. The subscale of Ideas had a reliability coefficient of .950 and the subscale of Behaviors had a reliability coefficient of .860.

Soh's Change Scale

Adaptability was measured by Soh's Change Scale (Soh, 1985). The third instrument consists of twenty items that were answered using a five-point Likert format and measure the teacher's acceptance of changes in life as normal happenings, and feelings toward change as enriching life experience in the classroom. Soh developed the scale in response to the tremendous amount of changes taking place in the education scene in Singapore. Soh developed three new scales, Change, Responsibility, and Teacher Behaviors to evaluate the introduction of new practices and curriculum at the classroom level which involved the teachers developing new perceptions, performing new duties and acquiring new teaching behaviors. The creation of the new scales allowed for the research to be conducted. The scale was based on a five-point Likert type scale reflecting: 1=Strongly Disagree, 2=Disagree, 3=Undecided, 4=Agree and 5=Strongly Agree. The first subscales consisted of ten items dealing with Enrichment consisting of items 1, 3, 4, 8, 11, 12, 15, 17, 19, and 20. The Enrichment subscale suggests a change as being positive and beneficial. An example statement pertains to the teachers' concept that change gives them a chance to try things out differently (Soh, 1985). The subscale normalcy, normal happenings, consisted of ten items 2, 5, 6, 7, 9,

10, 13, 14, 16, and 18. This subscale presents change as confusing, required, and not well accepted. The example of confusion arising from change reflects this subscale (Soh, 1985). Validity was established through a panel of experts comprised of the Oklahoma State University Department of Education Psychology department faculty. Reliability was established with Soh Change Scale through each subscale. The subscale of Enrichment had a reliability coefficient of .857 and the subscale of Normal had a reliability coefficient of .830. The total reliability coefficient for the Soh Change Scale was .844 in the 1985 study.

Procedures

Upon IRB approval to conduct the study involving human subjects (Appendix A: IRB Approval), contact was made with each of the schools' superintendents or principals requesting help to distribute the invitation to take part in the study. These persons became school contacts and distributed the invitation to certified staff through each school's mailbox system. Participants contacted the researcher with an interest to take part in the study through email and phone calls. I met with the participants at one school after a Staff Development Meeting to conduct the survey with a total of 21 instructors who chose to complete the questionnaire. Another school of five participants met in one classroom. The school with three participants met in a classroom, and finally, the high school participants of five met in a classroom after school. It took about 15 minutes for the participants to complete the instruments. Follow-up phone calls and emails were conducted with the school contacts to determine if any other teachers would like to take part in the research. After completing the research the data were analyzed according to the research questions. The data gathered in this study were analyzed using the Statistical

Package for the Social Sciences (SPSS) version 19 a computer program used for statistical analysis.

CHAPTER IV

RESULTS

The purpose of this study was to determine the relationship of creativity and adaptability to the teaching efficacy for elementary and secondary teachers. This chapter will describe the participants who completed the study instruments, the descriptive statistics for each measure and its subscales the results of the analysis for each research question.

Participating Teachers

Participants in this study consisted of 34 elementary and secondary teachers from the four participating school systems. School A had 3 participants from the elementary; School B had five participants from the high school level; School C had five elementary level teachers; and School D had eight elementary and 13 junior and senior high school teachers. There were 16 elementary (47.1%) and 18 secondary teachers (52.9%) with a gender makeup of seven males (20.6%) and 27 females (79.4%). The average years of experience were 14.79 (SD = 11.43) ranging from one to 56 years. Age of the participants ranged from 25 to 77 with an average participant age of 41.68 years (SD = 11.65). The educational background of the instructors was 23 (67.6%) participants with a BA/BS degree, 10 (29.4) participants with a MA/MS degree and one (2.9%) participant

with a PHD/EDD degree.

Descriptive Analysis

The study consists of three variables. Creativity, measured as Ideation, with the subscales of Ideas and Behavior. The second variable is Adaptability with the subscales of Normalcy and Enrichment. The third variable is Teacher Efficacy with the subscales of Student Engagement, Classroom Management and Instructional Strategies. The descriptive statistics for all total scores and subscales can be found in Table 1.

Table 1

Descriptive Analysis for All Variables

Variable	Mean	Standard Deviation	Number of Items	Cronbach Reliability
Total RIBS	3.01	.664	23	.905
Subscale Ideas	3.16	.681	17	.950
Subscale Behavior	2.57	.732	6	.860
Total SOH	3.10	.173	20	.844
Subscale Normal	2.79	.528	10	.830
Subscale Enrich	3.76	.457	10	.857
Total TSES	7.20	.761	24	.860
Subscale IS	7.31	.750	8	.832
Subscale CM	7.22	.786	8	.856
Subscale SE	7.08	.906	8	.893

Note: IS=Instructional Strategies; CM=Classroom Management; SE=Student

Engagement

Creativity total ideation score resulted in a mean of 3.01 and a standard deviation of .664, the subscale of Ideas resulted in a mean of .316 and a standard deviation of .681 and the subscale of Behavior resulted in a mean of 2.57 and a standard deviation of .732. Adaptability total score of change resulted in the mean 3.10 and a standard deviation of .173, the subscale of change as Enriching resulted in a mean of 3.76 and a standard deviation of .457 and the subscale of Normal scored a mean of 2.79 with a standard deviation of .528. The total score for Teaching Sense of Efficacy achieved a mean of 7.20 with a standard deviation of .761, the subscale Instructional Strategies achieve a mean of 7.31 with a standard deviation of .750, the subscale Classroom Management achieved a mean of 7.22 and a standard deviation of .786 and the subscale Student Engagement achieved a mean of 7.08 and a standard deviation of .906. It is important to note the range of responses on the 23 items of the Runco Ideational Behavior Scale and the 20 items of the Soh Change Scale is 1-5; whereas the 24 items of the Teacher Sense of Efficacy Scale has a range of 1-9.

Research Questions

Each of the research questions that guided the analysis for this study is presented with the results here.

Research Question 1. What is the reliability of subscales and scale scores for the measures of creativity (defined as ideas and behaviors), adaptability (defined as normal and enriching change), and teaching self-efficacy (defined as instructional strategies, classroom management and student engagement)?

Reliability for each of the subscales resulted in the Cronbach alphas for each of the instrument and its subscales. The total score for the Runco Ideational Behavior Scale

was .905 with the subscales of Ideas achieving .950 and Behavioral achieving .860. These reliabilities were somewhat lower; however, the Ideation scales achieved a higher reliability than what was reported in the standardization of the RIBS. The reliabilities for all total scores and subscales can be found in Table 1.

The Cronbach alpha total score for the Soh Change Scale was .844 with the subscales of Student Enrichment achieving .857 and Normalcy achieving .830. The reliabilities were similar to the Soh (1985) development of the instrument.

The Cronbach alpha total score for the Teacher Sense of Efficacy Scale (TSES) was .860 with the subscales of Student Engagement achieving .893, Classroom Management achieving .856, and Instructional Strategies achieving .832. These reliabilities were somewhat lower; however, the Student Engagement achieved a higher reliability than was previously reported in the standardization of the TSES.

Research Question 2: What is the relationship of each of the totals and subscale scores of the measures to each other (ideation creativity, behavioral creativity; normal change, enriching change; instructional strategies, classroom management, and student engagement)?

A correlation of all subscales and total scores was conducted to determine relationships between the Runco Ideational Behavior Scale and its subscales Idea and Behavior, Soh Change Scale and its subscales Enrichment and Normal, and the Teacher Sense of Efficacy Scale and its subscales Instructional Strategies, Classroom Management, and Student Engagement. The correlations for all total scores and subscales can be found in Table 2.

The results between the total Runco Ideational Behavior Scale (creativity), the total Soh Change Scale (Adaptability) and the total Teacher Sense of Efficacy Scale convey a positive correlation between the total Ideation (creativity) and total Teacher Efficacy Scale, $r = .430, p < 0.05$. Additional relationships between Adaptability and Teaching Self-Efficacy, along with Ideation (creativity) and Adaptability were not significantly relative to the standard alpha level of 0.05. The data suggest a relationship may exist between Ideation (creativity) and Teaching Self-Efficacy. It is important to note that the Soh Change Scale (Adaptability) total score cannot be used because of the positive and negative relationships of the subscales Enrichment and Normal to the total score.

Correlations between each of the Teacher Efficacy subscales of Instructional Strategies, $r = .909, p < 0.01$, Classroom Management, $r = .953, p < 0.01$, and Student Engagement, $r = .940, p < 0.01$, to Teacher Sense of Efficacy score are related in a positive way. This would mean that as Instructional Strategies, Classroom Management and Student Engagement increase so does a teacher's sense of efficacy increase.

The correlations between each of the Runco Ideational Behavior Scale subscales Ideas (creativity), $r = .984, p < 0.01$, and Behavior, $r = .884, p < 0.01$, are related to the total Runco Ideational Behavior Scale score in a positive way. Meaning that as Ideas (creativity) and Behaviors associated to ideas increase Ideation, as creativity, also increases. The subscale Behavior has been revised because of its instability in previous research.

Correlations between each of the Adaptability subscales Enrich, $r = -.024, p < 0.05$, and Normal, $r = .676, p < 0.01$, are related to the total Soh Change Scale

(Adaptability) with Enrich being negative and Normal being positive. This means that as a teacher's viewpoint of change as Normal decreases the desire for change increases and becomes Enriching. However, the opposite can also take place with Normal increasing and the desire for change as enriching will decrease.

The subscale Normal of the Soh Change Scale (Adaptability) has a negative, $r = -.749, p < 0.01$, relationship to seeing change as Enriching. The subscale Normal also has a negative relationship to Runco Ideational Scale (Creativity) total, $r = -.415, p < 0.05$, and its subscales of Ideation, $r = -.411, p < 0.05$, and Behavior, $r = -.357, p < 0.05$. The subscale Normal has a negative relationship to the subscale of Student Engagement, $r = -.348, p < 0.05$, of Teaching Sense of Efficacy. This means that as Adaptability as Normal decreases Creativity, as a whole, and Student Engagement also decrease.

There is a significant relationship between Teacher Sense of Efficacy and the subscales Instructional Strategies, $r = .909, p < 0.01$, Classroom Management, $r = .953, p < 0.01$, and Student Engagement, $r = .940, p < 0.01$. There is also a significant relationship between Teacher Sense of Efficacy and to total Ideation (Creativity), $r = .430, p < 0.05$, and Ideation subscales Ideas, $r = .438, p < 0.01$, and Behaviors, $r = .340, p < 0.05$. This means that Runco Ideational Behaviors total and subscale Ideas have a positive relationship to Teacher Sense of Efficacy suggesting that as creativity grows teacher efficacy increases.

Table 2

Correlations Between Variables

Variable	RIBS Total	RIBS Ideas	RIBS Behav	SOH Total	SOH Enrich	SOH Norm	TSES Total	TSES IS	TSES CM	TSES SE
RIBS Total	1	.984**	.884**	-.162	.389*	-.415*	.430*	.342*	.342*	.502*
RIBS Ideas		1	.786**	-.166	.383*	-.411*	.438**	.376*	.359*	.479**
RIBS Behav			1	-.124	.343*	-.357*	.340*	.198	.241	.484**
SOH Total				1	-.024	.676**	-.257	-.181	-.236	-.293
SOH Enrich					1	-.749**	.135	.109	.088	.175
SOH Norm						1	-.290	-.213	-.235	-.348*
TSES Total							1	.909**	.953**	.940**
TSES IS								1	.816**	.753**
TSES CM									1	.858**
TSES SE										1

Note: * Correlation is significant at the 0.05 level (2-tailed); ** Correlation is significant at the 0.01 level (2-tailed)

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to determine the relationship between creativity and adaptability to teacher self-efficacy. This chapter has as its contents the summary of the results presented in the previous chapter, as well as presenting the conclusions that can be derived from reflecting on the findings. Recommendations based on the conclusions include actions as well as suggestions for further studies based on the findings.

Summary of Findings

The purpose of this study was to determine the relationship of creativity, defined as ideation, and adaptability, defined as change, to teaching self-efficacy. The main focus of the study was to determine if there is a relationship between the generation of creative ideas, behaviors used to create ideas, enrichment, and normal happenings to teaching self-efficacy. Efficacy for student enrichment, classroom management and instructional strategies comprised the definition for teaching self-efficacy. To determine these relationships the following questions were asked:

Research Question 1: What is the reliability of subscales and total scale scores for the measures of creativity (defined as ideas and behaviors), adaptability (defined as normal and enriching change), and teaching self-efficacy (defined as student engagement, classroom management and instructional strategies)?

Research Question 2: What is the relationship of each of the subscales and total scores of the measures to each other (ideation creativity, behavioral creativity; normal change, enriching change; instructional strategies, classroom management and student engagement)?

The research method consisted of a paper survey questionnaire of the Teachers' Sense of Efficacy Scale (long form) to measure teaching self-efficacy for instructional strategies, classroom management and student engagement, Runco's Ideational Behavior Survey to measure creativity, Soh's Change Scale to measure adaptability, and a short background questionnaire about the participant.

The study consisted of 34 total teachers from four northeastern Oklahoma public school systems grades Pre-K through 12. The study was performed from November, 2011 through February, 2012 at the participating schools. The data gathered in this study were analyzed using the Statistical Package for the Social Sciences (SPSS) version 19 a computer program used for statistical analysis.

The study resulted in favorable reliabilities as Runco Ideational Behavior Scale with subscales Ideas and Behaviors, Soh's Change Scale with subscales Normalcy and Enrichment and Teacher Sense of Efficacy Scale with subscales of Instructional Strategies, Classroom Management and Student Engagement were comparable with the results of previously reported scores suggesting that the method of data gathering was reliable.

A correlation of all subscales and total scores was conducted to determine relationships between the Runco Ideational Behavioral Scale and its subscales Idea and Behavior, Soh Change Scale and its subscales Enrichment and Normal, and the Teacher

Sense of Efficacy Scale and its subscales Instructional Strategies, Classroom Management, and Student Engagement.

There were several significant correlations discovered within the scales and subscales. The subscales of Ideas and Behaviors are related to the total Runco Ideational Behavior Scale score in a positive way. Teaching Efficacy subscales Instructional Strategies, Classroom Management and Student Engagement are related to the total Teacher' Sense of Efficacy Scale score in a positive way. Adaptability subscales of Enrichment and Normal are related to the total Soh Change Scale with Enrichment in a negative way and Normal in a positive way. The Soh total scores cannot be used because of the positive and negative relationships of the subscales to the total score.

Significant correlations between variables of subscale of Soh Change Scale (Adaptability) as Normal has a negative relationship to seeing change as Enriching; to the Runco Ideational Behavior Scale total and its subscales of Ideation and Behavior; and to the only subscale of Students Engagement of Teacher Self-Efficacy. Teaching Efficacy and subscales Instructional Strategies, Classroom Management and Student Engagement are significantly related to the total Creativity score and the Ideation subscale; however, Classroom Management and Instructional Strategies are not related to Creativity Behavior subscale. The Behavior scale has been revised because of its instability in previous research.

Conclusions

The purpose of this study was to determine the relationship of creativity and adaptability to the teaching self-efficacy for elementary and secondary teachers. It is my belief that the findings show that these relationships exist.

Findings provide exploratory support suggesting a relationship may exist between Ideation (creativity) and teaching self-efficacy, when only ideation is considered. This means that total Ideation (creativity) and perceiving oneself as having ideas as related to confidence in teaching sense of efficacy subscales instructional strategies, classroom management and student engagement. Teachers' creativity plays an important role in developing students' creativity (Runco, 2006). I earlier referred to Tschannen-Moran, Woolfolk-Hoy, and Hoy (1998) making reference that teachers who have success in the classroom will build their self-efficacy for teaching. The findings suggest that a relationship does exist between Ideation (creativity) and teaching self-efficacy giving support to the work of others.

Findings provide exploratory support suggesting that teachers' perception of Change (adaptability) as enriching is related to Ideation (creativity), but is not related to teaching sense of efficacy. Teaching efficacy for Student Engagement was negatively related to seeing change as tolerating the normal. What is important here is to see that none of the subscales of teaching efficacy were related to the adaptability scale or perceiving change as enriching. In chapter one I noted that research has shown that effective teachers adapt their instruction to meet the needs of diverse students and situations (Parson, Williams, Borrowbridge & Mauk, 2011). However, my study has shown that there was not a relationship to the adaptability scale or perceiving change as enriching to neither instructional strategies nor student engagement. Ghaith and Yaghi (1997) had studied the relationships among teaching experience, efficacy and attitudes toward the implementation of instruction innovation and found general teaching efficacy did not correlate with teacher's attitudes towards implementing new instructional

practices. My results support the findings of Ghaith and Yaghi with no relationships between adaptability (change) and teaching self-efficacy. The finding may suggest teachers who have a high sense of efficacy and experience success with their students feel no need in changing their methods of instruction. This reflects the thoughts of Guskey (1988) that highly efficacious teachers with extremely high confidence in their instructional methods feared change for it might threaten the positive results they typically attain with students.

Findings provide exploratory support that as the teachers' perception of change (adaptability) as enriching increases the perception of change (adaptability) as normal happenings to be tolerated decreases. However, as change (adaptability) as normal happenings to be tolerated increases the teacher's perception of change (adaptability) as enriching decreases. The findings also indicate that seeing change as normal is negatively related to creativity.

Recommendations

Upon careful reflection on the findings of this study, the following recommendations are offered. First the implications for theory will be covered, followed by recommendations for future research, and finally, what these findings provide in terms of professional practices for teachers.

Implications to the Theory

The findings in the study support the theory that there is a relationship between creativity and teaching self-efficacy. Earlier in this paper I pointed out that little was known about the process of achieving efficacy in teaching and its relationship to other traits, such as ideation and adaptability, as possibly facilitating teaching efficacy. The

correlations supported this theory by the relationships shown between the subscales of creativity to teaching self-efficacy. The teacher's ability to generate creative ideas can formulate a desirable learning environment, peak student interest and encourage student participation. Jeffrey and Craft (2006) pointed out in their work that a creative teacher will engage and encourage possibility thinking by posing questions that assist in the exploration of a problem space and cultivate an exploratory attitude.

The findings of the study imply that there is a relationship between creativity and adaptability through enrichment to teaching self-efficacy. Bandura first posed the concept of self-efficacy as a belief in a person's capabilities to organize and execute the courses of action required to manage prospective situations (Bandura, 1995). In order for this to take place a relationship may need to be established between creativity and adaptability to satisfy Bandura's theory on self-efficacy. This study implies such a relationship exists.

These findings may be beneficial to future educators for it implies the benefits of a teacher with high teaching self-efficacy. Student performance is linked to teacher confidence in teaching ability, which is known as teaching self-efficacy (Ashton & Webb, 1986; Usher & Pajares, 2008).

I began this research believing I would find sufficient data supporting the theory of a relationship existing between creativity and adaptability to teaching self-efficacy. I found it interesting that some of the findings did not support my hypothesis. An example of this was adaptability showed a relationship with teaching efficacy subscale student engagement but not to the subscales of classroom management or instructional strategies.

Implications for Further Research

Although elementary and secondary teachers have higher teaching self-efficacy as indicators of seeing change as enriching and creativity as ideas along with creativity as behaviors, there are several questions raised from the findings that must be addressed with further study. Specifically, greater numbers of teachers at a range of types of schools are necessary to offer reliable replication of these results.

Even though reliabilities and correlations were used in the study, the study could be taken further by breaking down the different subscales into groups and analyzing the results within each subscale group. However, with the low number of participants in the initial survey it would be difficult to attain additional data that may support the theory.

Because teaching efficacy for student engagement is negatively related to tolerating change, it may be related to novice versus veteran perspectives. Including college of education students who have completed a teaching internship may reveal this possibility. Serving an internship is required due to the experience associated within a teaching environment.

Further research may also include schools of all sizes as the initial research was limited to small rural public schools. The inclusion of larger school districts would provide additional teacher input necessary to offer reliable replication of these results.

Implications to the Practice

Based on the findings of my research, it seems necessary to make the following recommendations:

Teachers need to learn to see change as enrichment to increase the creativity through generation of ideas and behaviors (creativity). There are several methods

available to today's teachers that can provide the needed information for this enrichment to take place. Peer coaching is a method in which teachers work with other teachers to offer recommendations, answer questions, and provide a support system as teachers learn how change as enrichment is beneficial to them and their students. Small group discussion allows for teachers to come together to exchange ideas that have worked for them with other teachers. Other developmental programs available to teachers are workshops and professional development programs which are offered both locally and through the state department of education. These programs can provide additional material to generate ideas and behaviors that will increase a teacher's efficacy.

Ideation (creativity) has been determined in the study to develop stronger instructional strategies, maintain classroom management and increase student engagement. Teachers having creative ideas or behaviors leading to creative ideas need to feel comfortable and willing to express their thoughts. Sometimes teachers find it hard to come up with something "new" to interest the students and keep them on task. To provide support for the teachers there are numerous workshop programs and professional development programs available to instructors. These programs are designed to provide great information, teaching techniques and show how to put the methods to use in the classroom.

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APPENDICES

IRB Approval

Oklahoma State University Institutional Review Board

Date: Wednesday, November 09, 2011
IRB Application No: ED11195
Proposal Title: The Relationship of Creativity and Adaptability to Teaching Self-Efficacy

Reviewed and Processed as: Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 11/8/2012

Principal Investigator(s):
James M Patrick Diane Montgomery
PO Box 688 424 Willard
Barnsdall, OK 74002 Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 4b CFR 46.

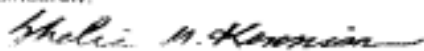
The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Corbett North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,



Sheila Kennison, Chair
Institutional Review Board

Demographic Survey

Some Questions about You:

1. What is your gender (check one)? Female Male

2. How old are you? Years

3. Please check the item that best describes your ethnicity. Check all that apply.
 African American Asian American
 Hispanic/Latino(a) American Indian
 White Other, please specify: _____

4. In what areas are you certified to teach?

5. What is the highest degree that you have completed (check one)?
 Bachelor's Degree Master's degree
 Doctorate Degree Other, please specify:

6. How many years of teaching experience do you have?

7. What is your current teaching assignment?

8. How long have you been in your current teaching assignment?

9. What else have you taught in the past?

10. What are some of your hobbies:

VITA

James Morgan Patrick

Candidate for the Degree of

Master of Science

Thesis: THE RELATIONSHIP OF CREATIVITY AND ADAPTABILITY TO TEACHING EFFICACY

Major Field: Education Psychology

Biographical:

Education:

Completed the requirements for the Master of Science with a major in Education Psychology at Oklahoma State University, Stillwater, Oklahoma in July, 2012.

Completed the requirements for the Bachelor of Science in Political Science/History at Rogers State University, Claremore, Oklahoma in May 2007.

Experience: Five years teaching art, government, Oklahoma history, economics humanities and photography at Barnsdall Public Schools, Barnsdall, OK.

Professional Memberships:

National Education Association

Name: James Morgan Patrick

Date of Degree: July, 2012

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: THE RELATIONSHIP OF CREATIVITY AND ADAPTABILITY TO TEACHING EFFICACY

Pages in Study: 60

Candidate for the Degree of Master of Science

Major Field: Education Psychology

Scope and Method of Study:

The purpose of this study was to determine the relationship of creativity and adaptability to the teaching efficacy for elementary and secondary teachers. Participants in this study consisted of 34 elementary and secondary teachers from four participating school systems. A paper survey consisting of The Runco Ideational Behavior Scale (Runco, Lim, Plucker, 2000) was used to determine the self perceptions of generating creative ideas (creativity). The Soh Change Scale (Soh, 1985) was used to determine perceptions of change as normal and/or enriching (adaptability). The Teacher Sense of Efficacy Scale (TSES; Tschannen-Moran & Woolfolk-Hoy, 2001) measured the variable of self efficacy in the three areas of instructional strategies, classroom management, and student engagement. Following the collection of the surveys the data were entered into the SPSS version 19 computer program to determine reliabilities of the instrument followed by a calculation of correlations to check for possible relationships between the scale totals and subscales.

Findings and Conclusions:

Results of the scale and subscale reliabilities were favorable for the measures of creativity, adaptability and teaching self efficacy. Of particular note is the similarity of these reliabilities to the results of previously reported scores suggesting that the measures were reliable.

A correlation of all subscales and total scores was conducted to determine relationships between all variables. Findings indicate change as Normal has a negative relationship to seeing change as Enriching; to Creativity Total, and its subscales of Ideation and Behavior; and to only the subscale of Student Engagement of Teaching Efficacy. Teaching Efficacy and all subscales are significantly related to Creativity Total score and the Ideation subscale; however, Classroom Management and Instructional Strategies are not related to Creativity Behavior. Creativity subscales are related to the Total Ideation score in a positive way. Teaching Efficacy subscales are related to the Totals Teaching Efficacy score in a positive way. Change subscales are related to the Total Soh Scale with Enrichment in a negative way and Normal in a positive way. These findings provide implications for future research.

ADVISER'S APPROVAL: Dr. Diane Montgomery
