

THE RELATIONSHIP BETWEEN SOCIAL DESIRABILITY AND TEACHER EFFICACY
AMONG PUBLIC SCHOOLS SECONDARY TEACHERS IN THE UNITED STATES

by

Douglas Scott Renfro

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

Liberty University

2018

THE RELATIONSHIP BETWEEN SOCIAL DESIRABILITY AND TEACHER EFFICACY
AMONG PUBLIC SCHOOLS SECONDARY TEACHERS IN THE UNITED STATES

by Douglas Scott Renfro

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

Liberty University, Lynchburg, VA

2018

APPROVED BY:

Michelle J. Barthlow, Ed.D., Committee Chair

Jessica Talada, Ed.D., Committee Member

Wendy Oliver, Ed.D., Committee Member

ABSTRACT

The purpose of this correlational study was to investigate factors that impact the implementation and successful adoption of blended learning instructional practices in secondary classrooms in public schools in the United States. This study examined the relationship between social desirability for the implementation and successful adoption of blended learning instruction and teacher efficacy in secondary teachers. The theories guiding the research were Projection Theory from Holmes as the theory relates to social desirability and Social Cognitive Theory from Bandura as the theory relates to teacher efficacy. Both theoretical frameworks relate to potential change in behavior. The data utilized in the research represented 226 secondary teachers from multiple districts' in the United States in preparation for implementation and successful adoption of blended learning as a new instructional strategy as a portion of their professional development plan. One survey instrument containing multiple sections was used to collect the data: The *Blended Practice Profile* (Predictor variable – social desirability for the implementation of blended learning instruction) and the *Teacher Sense of Efficacy Scale* (Criterion Variable – teacher efficacy total score and two subscales: instructional strategies and student engagement). A Pearson product moment was used to determine the relationship between the variables. A statistically significant relationship was found between social desirability for blended learning instruction and teacher efficacy. Suggestions for future research include implementation of blended learning from the lens of student engagement, student efficacy, and the level of support from districts and schools for the implementation of blended instructional strategies and teacher efficacy.

Keywords: social desirability, teacher efficacy, blended learning, organizational change

Dedication

This journey has taken time and energy from very special individuals who mean everything to me. I dedicate this dissertation to my family. My boys, Martin and Daniel. Martin for being the adult I want to be when I grow up and Daniel whose love of fearlessly trying new ideas and adventures inspires me. They were a constant voice and motivator as they asked me all the time “How is the dissertation going?” and they would patiently listen to my response. Most of all my wife, Jeannine, who has encouraged me, pushed me, and loved me more than any person in the world. You have given so much to me that I will never be able to repay you, but I get the joy of working toward that goal for the rest of our lives. It is because of your support, patience, and love I enjoy writing this today. Thank you, I love you.

Acknowledgments

I would like to begin by acknowledging my committee who have taken much time and effort to support me through this process. To my chair, Dr. Michelle Barthlow, thank you for the support and phone calls which made me think and work through the process to meet this goal. To Dr. Wendy Oliver, for being a thought partner and friend. Dr. Susan Courey for being an incredible friend who supported me with more time and effort than I deserved. I could not have accomplished this if it were not for these fantastic individuals – Thank you!!

List of Tables

Table 1: Means and Standard Deviations	67
Table 2. Pearson r Correlations.....	75

List of Figures

Figure 1. Box and Whiskers for Blended Practice Profile.....	68
Figure 2. Box and Whiskers for Teacher Sense of Efficacy Scale.	69
Figure 3. Box and Whiskers for Teacher Sense of Efficacy Scale - Subscale of Instructional Strategies.....	69
Figure 4. Box and Whiskers for Teacher Sense of Efficacy Scale - Subscale of Student Engagement.....	70
Figure 5. Histogram for Blended Practice Profile Survey.	71
Figure 6. Histogram for Teacher Sense of Efficacy Scale.....	71
Figure 7. Histogram for Teacher Sense of Efficacy Scale - Subscale of Instructional Strategies.....	71
Figure 8. Histogram for Teacher Sense of Efficacy Scale - Subscale of Student Engagement....	72
Figure 9. Scatter plot for Blended Practice Profile Survey and Teacher Sense Efficacy Scale. ..	72
Figure 10. Scatter plot for Blended Practice Profile Survey and Teacher Sense of Efficacy Scale - Subscale of Instructional Strategies.....	73
Figure 11. Scatter plot for Blended Practice Profile Survey and Teacher Sense Efficacy Scale - Subscale of Student Engagement.....	73

List of Abbreviations

International Society for Technology in Education (ISTE)

International Association for K-12 Online Learning (iNACOL).

Teacher Sense of Efficacy Scale (TETS)

Institutional Review Board (IRB)

Statistical Package for Social Sciences (SPSS)

Table of Contents

ABSTRACT.....	3
Dedication.....	4
Acknowledgments.....	5
List of Tables	6
List of Figures	7
List of Abbreviations	8
Table of Contents.....	9
CHAPTER ONE: INTRODUCTION.....	12
Overview.....	12
Background.....	12
Blended Learning.....	13
Constructs that Influence Change	16
Teacher Efficacy.....	20
Problem Statement.....	22
Purpose Statement.....	23
Significance of the Study	24
Definitions.....	25
CHAPTER TWO: LITERATURE REVIEW.....	27
Overview.....	27
Theoretical Framework.....	27
Projection Theory.....	27
Social Cognitive Theory	32

Related Literature.....	38
Social Desirability.....	38
Teacher Efficacy.....	43
Blended Learning.....	44
Summary.....	52
CHAPTER THREE: METHODS.....	58
Overview.....	58
Design.....	58
Research Question.....	59
Null Hypotheses.....	59
Participants and Setting.....	59
Instrumentation.....	61
Procedures.....	63
Data Analysis.....	64
CHAPTER FOUR: FINDINGS.....	66
Overview.....	66
Research Question.....	66
Null Hypothesis.....	66
Descriptive Statistics.....	67
Results.....	68
Data Screening.....	68
Assumption Tests.....	70
Hypothesis.....	74

Null Hypothesis One.....	74
Null Hypothesis Two	74
Null Hypothesis Three	74
CHAPTER FIVE: CONCLUSIONS	76
Overview.....	76
Discussion.....	76
Null Hypothesis One.....	77
Null Hypothesis Two	78
Null Hypothesis Three	79
Conclusions.....	80
Implications.....	81
Limitations	83
Recommendations for Future Research	85
REFERENCES	86
Appendix A.....	104
Appendix B.....	105

CHAPTER ONE: INTRODUCTION

Overview

It is standard practice in the educational setting to have the expectation that teachers implement new skills or instructional strategies in classrooms in schools to support student learning and engagement. This chapter examines some of the factors which impact how teachers implement and successfully adopt new skills and instructional strategies. The mandate to shift an instructional strategy or practice is often external in nature, but the ability and willingness to learn and implement the instructional strategy or practice relies on the internal motivation of the individual teacher. With this contextual knowledge, this chapter explains the purpose of this study, which is to investigate the identified areas of concern regarding blended learning. In addition, the results of this study will provide new data contributing to the body of knowledge on blended learning. This chapter concludes with a research question designed to investigate aspects of the phenomenon of implementation of a new instructional strategy or practice in the classroom within an online blended teaching environment.

Background

Our continually evolving educational environment with its push for differentiated instruction and customized student learning requires advances in instructional strategies and the utilization of technology. Blended learning includes a mix of technology and traditional face-to-face instruction, which enables students to participate more fully in their learning. “Asking whether online learning is a good thing is much like asking whether email, Target, and TurboTax are good things” (Horn & Staker, 2015, p. 2). In order to prepare students for a 21st Century global economy as digital citizens, students need to be educated differently. The use of digital technologies has become a pervasive integration into the student learning experience

(Henderson, Selwyn, & Aston, 2017). The manner in which students engage and consume content necessitates that teachers learn new pedagogies to meet the needs of their students. Advancements in technology and increased access for students to these technologies provides opportunities for expanded student learning. By leveraging the online learning environment provided by advancing technology, students have increased opportunities for engagement and extension in learning process.

Blended Learning

Blended learning instruction is defined as an instructional strategy that leverages technology and face-to-face instruction working in concert with each other to raise the level of student engagement and learning (Graham, Woodfield, & Harrison, 2013). Turner (2015) discusses blended learning as an instructional strategy that relies on the instructor to provide a combination of face-to-face instructional delivery combined with the virtual mode of online slides, lecture notes, and asynchronous discussions to engage the learner. Selwyn (2014) found that the implementation of the digital technologies in the teaching and learning process is inconsistently implemented in the education setting. Ng (2102) suggests that the effective use of student technology is greatly influenced by the overall level of technology use within the school day. The power of the technology to serve as a tool to enhance learning and engage students is mediated by the implementation of instructional strategies at the institutional, school, or teacher level.

One of the more recent instructional strategies that is appearing in districts, schools, and classrooms throughout the world is blended learning. Blended Learning is defined as a pedagogical approach to learning where the student has control to some degree over the time, place, pace, and path of the learning process (Horn & Staker, 2015). The sense of urgency in the

educational setting often causes the shifts to new instructional strategies to be implemented in very short windows of time to understand and implement the practices. Christensen, Horn, and Johnson (2011) explain, “In essence, the public schools have been required to do the equivalent of rebuilding an airplane in mid-flight something almost no private enterprise has been able to do” (p. 51). Blended learning while providing a platform for increasing the level of student engagement by creating an environment that shifts and changes with students’ learning needs and daily schedules falls prey to the educational urgency. Benson and Kolsaker (2015) explain that instructors appreciate that a blended learning environment allows for increased expansion of instruction to different learning styles, increased content and information accessibility. In addition, blended learning environments more directly meet student expectations regarding teaching and learning with technology. Horn and Staker (2015) expand the definition of a blended learning environment beyond the understanding that students have some control of the time, place, and pace of learning to include that students also have some control over the path of their learning process.

The frame of reference for how blended learning instruction should occur in the classroom is determined by the following two educational technology organizations: The International Society for Technology in Education (ISTE) and the International Association for K-12 Online Learning (iNACOL). These organizations have been the leading force in the use of appropriate and thoughtful use of technology in education to support student learning and engagement. In combination, ISTE and iNACOL outline best practices for blended learning instruction, which are reflected in the widely accepted Oliver’s Framework for Blended Instruction (Oliver, 2014).

Oliver's Frameworks for Instruction in the Blended and Online Environments are designed to present best practices to instructors who are implementing digital technology in the classroom and to give administrators guidance in considering resources and examining expectations. Oliver's Framework for Blended Instruction provides guidance and information in the following six domains: Instruction, Professional Responsibility, Technology, Planning and Preparation, Curriculum, and Instructional Design (Oliver, 2014; Parks, Oliver, & Carson, 2016). Each domain on the *Blended Practice Profile* is designed to address a more detailed and focused aspect of instruction. While all domains are specific to instruction, the day-to-day implementation of blended learning instruction is explained in the technology domain.

In the technology domain, the expectation includes the instructor providing instruction on the use of digital resources, emphasizes both traditional and digital learning environments, possesses 21st century digital citizenship skills, and manages the technical resources of the learning environment (Oliver, 2014). Christianson, Horn, and Staker (2013) describes multiple models for the implementation of blended learning in the classroom: station rotation where students rotate between traditional instruction and computer-aided instruction, flipped instruction where content is consumed digitally prior to coming to the classroom for traditional instruction to the flex model where the majority of the instruction occurs in the online environment for the majority of the content. Blended instruction environments vary greatly in regard to time and engagement within the technology environment. However, some research has investigated a substitution for the number of required content hours with technology-enhanced instruction (Deschacht & Goeman, 2015). Poon (2013) found that the teacher must have an understanding of the manner in which students access and engage with the content and resources in order to provide a productive blended learning environment without unnecessary time requirements. This

new model of instruction that inspires increased student motivation and the development of more autonomous learning is representative of the changes in the educational model.

Poon (2013) highlights the need for the instructor to have some understanding of the manner in which students engage in the learning process utilizing technology. By contrast, Giles and Kent (2016) emphasize the need to understand the shift in the learning process and the need for technology to play a role. These two newer perspectives challenge the existing methodologies and suggest the need for changes in the pedagogy on behalf of instructors. The change efforts and psychology behind educational constructs should be examined for the impact on the desire and ability to learn for both the student and the instructor. One way of examining the ability and motivation for instructors to change behaviors is through educational psychology, which involves the study of change of individuals' cognitive-motivational processes. It is through this cognitive-motivational lens with the supporting research that the process of individual change can be examined and documented.

Constructs that Influence Change

The social sciences use the term construct to discuss an idea or theory which contains a number of interacting elements, subjective in nature and developing over time (Kelly, 1963). The subjective nature of constructs lies in the manner in which the construct is developed by the individual as he/she interacts with the environment, while bringing personal experiences to the understanding of the social setting (Bannister & Fransella, 1986). Blended learning at its core is characterized by instructional strategies; however, the level of perceived change that must occur for systemic change is impacted by the social setting of the individual and the institution. By examining the constructs involved in making behavioral changes, we can begin to understand why teachers and students might make changes to their instructional routine, such as the

utilization of technology for asynchronous discussion or online assessment strategies required for successful blended learning. In order for these changes to support successful blended learning, they must prove to be a desirable change in the eyes of the school, classroom, teacher, and student.

Edwards (1957) and Crowne and Marlow (1960) examine social desirability as a psychological construct, which can impact individual and group beliefs. The nature of the district, school, or even grade-level team is impacted by social group dynamics. Social desirability can become prevalent in these social settings and greatly impact the collective. Social desirability is a motivational construct in that it drives an individual to want other people to like them. It suggests that an individual's behavior is driven by a need to be liked for approval. Schools and teachers are not immune to this, as the job requires that all individuals work closely together for extended periods of time to impact the learner.

Additionally, Bandura (2004) draws attention to the following three core constructs, which arise from Social Cognitive Theory: self-efficacy, outcomes expectations, and goals. These four psychological constructs – social desirability, self-efficacy, outcomes expectations, and goals – influence cognitive-motivational processes. The potentially influential construct of social desirability has not been extensively researched in the educational field overall, but teacher efficacy as defined in Bandura's work, is increasingly seen in educational research (Bandura, 1982). The implementation of a new instructional strategy in the educational arena, such as blended-learning instruction is influenced by the social desirability construct, as outlined by Crowne and Marlow (1960). Crowne and Marlow (1960) explain that the school setting or environment revolves around the social nature of the instructors and students forming group beliefs about instructional strategies. With the addition of Bandura's (2004) three core

constructs – self-efficacy, outcomes expectations, and goals – the implementation of blended-learning instruction seems to mediate the desirability to implement the instructional strategy.

The potential social implications should be examined in the educational setting to provide insight into the implementation and successful adoption of an instructional practice as it occurs in classrooms. The influence of these constructs and their potential application is further mediated by the individual teacher and the social setting of the educational system, the school, or even the specific classroom (Tschannen-Moran & Hoy, 2001).

Social desirability is not a construct often mentioned when discussing teachers and the implementation of new skills or instructional strategies. Social desirability is defined as the tendency of an individual to respond in a manner that is perceived to be overtly positive for the approval of others (Crowne & Marlowe, 1964). Since data in social sciences is often collected through self-reporting surveys, the application of social desirability is typically associated with reporting ideas and behaviors that other people would approve of and like. Social desirability in this application is defined as the manner in which an individual may respond in a survey instrument, and the tendency of the individual to choose items in response to social pressures and approval seeking (Ellingsen, Smith, & Sackett, 2001). Holmes (1968) examined the level of attribution of intent that serves as the starting point for the application of Projection Theory. Projection Theory suggests an individual denies their own negative characteristics and projects them onto others around them. Holmes explains that intent and projection are mediated by the social setting. New instructional practices, such as the implementation of blended learning, will fall under the same scrutiny as other changes in the educational setting, such as leadership change. The social setting of the institution driven by the personal experiences of the teachers can and will determine the acceptance of the change and serve as a launch point for projection.

Research to this point has focused on investigating social desirability by overlaying the concept of bias to provide understanding of the construct. Social desirability bias in survey research is a form of bias whereby a respondent answers questions in a way that will be viewed as favorable by others (Rodriquez-Campos, Bearson, Owens, Egea-Walker, & Bellara, 2014). Investigating social desirability changes, taking into account a foundational understanding of Projection Theory, provides an understanding of both the positive and negative impacts that social desirability could have on the learning and application of a new skill or instructional strategy. Social desirability, while based on the beliefs of the individual, is also prey to the social setting and the impact of external factors on the individual. The negative attribution of social desirability has led researchers to examine the construct predominately through a negative lens and the impact on reporting related to sensitive subject areas such as drug use or compliance. However, Zemore (2012) investigated the role of social desirability as a source of motivation for an individual. Zemore turns the focus not on the potential bias, which can be a part of the social desirability research, but he places the focus on the possible positive outcomes, which may be the result of that perceived social pressure.

While the drive to implement a new skill or instructional strategy in the classroom generally comes from external forces, such as district or school leadership, the key to that implementation and successful adoption, as well as the level of fidelity of the implementation, resides in the individual and the social setting within which a respective teacher works. Thus, the constructs that influence behavior (social desirability, self-efficacy, outcomes expectations, and goals) influence the cognitive-motivational processes that inspire behavior change. Inherent in the implementation and successful adoption of a new skill or instructional strategy is the need for an individual participating in the social setting to agree to change. Hayes (2014) views

change and the change process as a series of interconnected events and the interplay of the decisions, actions, and expectations of the individual in the setting. In application, a theory of change holds that an organized and mapped change path with an understanding of all the inputs and targeted outcomes will lead to effective and sustainable change (Burke, 2017).

Teacher Efficacy

Teacher efficacy, an extension and adaption of the work of Bandura on self-efficacy, is another point of investigation in the implementation of a new skill or instructional strategy in classrooms. Self-efficacy is the belief that an individual has the ability to perform at a certain level or complete a task regardless of the difficulty (Bandura, 1997). Self-efficacy has its roots in Social Cognitive Theory and is one of the cornerstone constructs which arose from Albert Bandura's work on Social Cognitive Theory (McAuley & Blissmer, 2000). Bandura (2001) discusses Social Cognitive Theory in relation to an individual's developmental changes over time. He explains that Social Learning Theory shows a direct correlation between a person's perceived self-efficacy and behavioral change. Further, Bandura (1997) suggests that self-efficacy comes from the following four sources: performance accomplishments, vicarious experience, verbal persuasion, and physiological states. In this way, an individual with low self-efficacy and perceived lack of content knowledge will find the implementation of a new skill or instructional strategy beyond his/her capacity (Tobin & Tippett, 2013). The use of established instructional strategies around knowledge and skill acquisition can potentially raise the efficacy of the individual and thus the acquisition process.

Ahangari, Hejazi, and Razmjou (2014) found that by tying knowledge and/or skills to previous foundational knowledge there is a greater likelihood in the retention and use of the new knowledge and/or skills set. The scaffolding of prior content knowledge provides a platform for

the application of the zone of proximal development. The application of scaffolding and the zone of proximal development outlines the need to challenge the learner at a level which is a struggle, but still achievable as a means for engagement and achievement (Vygotsky, 1978). A shift in the application of the zone of proximal development to a transactional and interactive application changes the dynamic of the learner and the social learning setting (El Kadri, Roth, Gil, & Mateus, 2017). This productive struggle relates to the construct of self-efficacy in instructional delivery in the classroom and can be applied to student engagement and willingness to learn and apply new material.

Gredler (2012) demonstrated that learners have a greater level of acquisition if the skill being learned is tied to prior knowledge. Self-efficacy – as applied to teacher engagement, willingness to learn and to apply material – is called teacher efficacy (Skaalvik & Skaalvik, 2014). Teacher efficacy focuses on a teacher's belief that he or she can affect a change in some aspect of their professional life (Tschannen-Moran, Hoy, & Hoy, 1998). The role of teacher efficacy as a vehicle to change a teacher's base beliefs is paramount to the impact that he or she can have on both himself or herself and others around them (Nie, Tan, Liao, Lau, & Chua, 2013).

Social desirability as a psychological construct examines the impact individual and group beliefs (Crowne & Marlowe, 1964). Social desirability is a motivational construct in that it drives an individual to want other people to like them. It suggests that an individual's behavior is driven by a need for liking and approval. Self-efficacy as defined by Bandura (1989a) can be a factor in an individual's ability to implement a change in behavior. More broadly, teacher efficacy examines a teacher's belief around implementation and fidelity for instructional change. The application of these theories in the educational setting broadly impacts any changes that occur in the district, school, and classrooms.

Problem Statement

Social desirability is a motivational construct in that it drives an individual to want other people to like them. It suggests that an individual's behavior is driven by a need for liking and approval (Crowne & Marlowe, 1964). Poropat (2104) examined the role of social desirability in the context of academic performance of the individual student. This study combines and expands the investigation of social desirability as a motivation for change. Zemore (2012) and the role of social desirability Poropat (2014) in the context of teacher motivation, change and job-related performance.

Teacher efficacy is a future-oriented belief about the level of competence a person expects he or she will display in a given situation (Tschannen-Moran, Hoy, & Hoy, 1998). While teacher efficacy has been studied as a factor in the implementation and successful adoption of a new skill or instructional strategy, the investigation to this point has been in isolation or concurrently paired with content knowledge (Zuffiano, et al., 2013). An individual's belief in himself or herself or his or her organization is constantly under the influence of internal factors and external forces which can serve as motivation or as discouragement from a path (Heydari, Dashtgard, & Moghadman, 2014). A recent survey (Giles & Kent, 2016) found it is imperative for teachers to have philosophical knowledge and understanding that the use of technology in instruction is not isolated and must be core to student learning. The combination and interaction of the constructs of social desirability and teacher efficacy that impact the implementation and successful adoption of a new skill or instructional strategy in secondary classrooms in the United States has not been examined to understand their collective impact on teachers' adoption of new strategies. Giles and Kent (2016) call for more investigation into approaches to increase teacher efficacy for teaching with technology to impact student

engagement and achievement. The problem is that additional research needs to examine social desirability and teacher efficacy for the implementation and successful adoption of blended learning instruction by secondary teachers in the United States.

Purpose Statement

The purpose of this correlational study was to examine the relationship between social desirability and teacher efficacy for the implementation and successful adoption of blended learning instruction by secondary teachers in the United States. Social desirability, the predictor variable, is defined as the way an individual may respond to a survey or instrument and the tendency of individuals to choose items in response to social pressures (Ellingsen, Smith, & Staker, 2001). Teacher efficacy, the criterion variable, is defined as the faith or belief a teacher has in his or her ability to complete a new task when presented (Bandura, 1997). The research will use a self-reporting survey instrument to determine social desirability and teacher efficacy: *Blended Practice Profile* and *Teacher Sense of Efficacy Scale* (Parks, Oliver, & Carson, 2016). Both the social desirability and teacher efficacy questions utilize Likert scale questions as the vehicle for data collection. The *Teacher Sense of Efficacy Scale* examines the overall self-reported efficacy of the teacher as well as efficacy on three sub-scales of classroom management, instructional strategies and student engagement (Tschannen-Moran & Woolfolk, 2001). The archival data for the population for this study is comprised of 298 secondary public-school teachers in the United States completing the survey in the last 24 months. The respondents to the survey are 69% female and 31% male. The ethnicities reported are 66% white, 20% Black or African American, 3% Hispanic or Latino, 1% American Indian or Alaskan Native, 1% Asian/Pacific Islander, and 9% not identified. The educational level of the respondents is 34% Bachelors, 33% Masters, 23% Master's Plus 30, 4% Ed.S., 1% Ed.D./Ph.D., and 2% other. The

length of teaching time for the respondents was 5% teaching less than 1 year, 17% teaching between 1-4 years, 20% teaching between 5-9 years, 21% teaching 10-14 years, 13% teaching 15-19 years, and 18% teaching between 20-24 years. The classroom teaching environment for the respondents was 90% teaching in a physical classroom, 9% floating between multiple classrooms, and 1% teaching online. The teachers are employed in seven middle and high schools in several separate geographical locations in the United States as part of multiple districts' preparation for implementation and successful adoption of blended learning as a new instructional strategy. This study examines the possible relationship between social desirability (predictive variable) and its potential impact on teacher efficacy (the criterion variable) as total scale and on the subscales of instructional strategies and student engagement.

Significance of the Study

Examination of the social desirability has historically looked at the construct from the perspective of bias in reporting. Teacher efficacy research has historically been investigated in relation to the ability to teach content or implement a new skill or technology in a classroom. The two constructs, however, should not be viewed in isolation. This study will add to the literature since it investigates the potential linkage of the social desirability for the implementation of blended learning instruction and the reported level of teacher efficacy.

Dixon et al. (2014) examined a teacher's willingness to change, as it relates to self-efficacy. Findings demonstrated that a teacher could move beyond the construct of isolated self-efficacy and extend to forces impacting teacher motivation, therefore enhancing learning. Zemore (2012) examined the construct of social desirability as a motivational role in change, while Poropat (2104) examined the role of the construct of social desirability traits on positive academic performance. This study will examine the role of social desirability as a source of

motivation for a change in instructional strategies. This study extends the understanding of forces that can impact teacher efficacy when implementing blended instructional practices by teachers to increase student engagement and achievement.

Definitions

1. *Change Theory* – Change theory is defined as a series of interconnected events and the interplay of the decisions, actions, and expectations of the individual in the setting which result in a change (Hayes, 2014).
2. *Construct* – Construct is an idea or theory which contains a number of interacting elements which can be subjective in nature and develop over time (Kelly, 1963).
3. *Social Cognitive Theory* – Social Cognitive Theory examines learning which results from dynamic and collaborative interactions between individuals, groups, and environment (Bandura, 1986a).
4. *Human Agency* – Human agency is defined as the ability of an individual to make decisions and choices and then proceed to act upon those choices (Martin, 2004).
5. *Blended Learning* – Blended Learning is defined as pedagogical approach to learning where the student has control to some degree over the time, place, pace and path of the learning process (Horn & Staker, 2015).
6. *Blended Learning Instruction* – Blended learning instruction is defined as an instructional strategy which leverages technology and face-to-face instruction working in concert together to raise the level of student engagement and learning (Graham, Woodfield, & Harrison, 2013).
7. *Self-Efficacy* – Self-efficacy is defined as an individual's confidence in their ability to execute and complete tasks when encountered regardless of the perceived or real barriers

- to completion (Bandura, 1997).
8. *Teacher Efficacy* – Teacher efficacy is defined as the belief a teacher has that when presented a task the individual believes that he/she can complete the task in his/her profession (Skaalvik & Skaalvik, 2010).
 9. *TETS (Teacher Sense of Efficacy Scale)* – *TETS* is a Likert style survey of 12 questions which examines the level of teacher efficacy overall and on the three subscales of classroom management, instructional strategies, and student engagement (Tschannen-Moran & Hoy Woolfolk, 2001).
 10. *Blended Learning Practice Profile* – Blended Learning Practice Profile is a Likert style survey of 33 questions which provides feedback in six domains of instruction and data on the social desirability of the instructional method. (Michigan Virtual Learning Research Institute, 2016).
 11. *Self-Regulation* – Self- regulation is defined as the manner in which an individual presides over their own behavior (Bandura, 2004).
 12. *Human Agency* – *Human Agency* is defined as the ability of an individual to make decisions and choices and then proceed to act upon those choices (Martin, 2004).
 13. *Social Desirability* – Social Desirability is defined as the manner in which individuals respond to questions or decisions in a light which is favorable to others (Crowne & Marlowe, 1964).
 14. *Cognitive Dissonance* - Cognitive dissonance is defined as the action or belief of an individual which is in conflict with their current attitude or belief (Wicklund & Breheim, 1976).

CHAPTER TWO: LITERATURE REVIEW

Overview

The literature review will begin with an introduction of the two foundational theories that influence the behavioral changes in instructors: Projection Theory and Social Cognitive Theory. These theories provide a framework for understanding the desirability of instructors to learn new instructional strategies and the efficacy of these changes in producing improved outcomes in learning. Literature related to Projection Theory and Social Cognitive Theory provides a lens to examine research in the areas of social desirability and efficacy. Both theories have at their core a social component that relies on interaction for implementation. The resulting constructs from these theories: social desirability and self-efficacy can and do exist in isolation, but potentially have a compounding impact when examined in the educational setting. Additionally, the theories and frameworks behind the data collection tool, Oliver's Framework for Blended Instruction, is presented in this chapter. In turn, Horn and Staker (2015) is included to provide an extension of the relation of technology tool to a blended learning environment as well as a definition of blended instruction (Graham, Woodfield, & Harrison, 2013).

Theoretical Framework

Projection Theory

Projection Theory results in projection which is defined as "the manifestation of behavior by an individual which indicates some emotional value or need of the individual" (Murstien & Pryer, 1959, p.370). Holmes, (1968) differentiates Projection Theory into classical projection and attributive projection. Sherwood explains, "Classical projection assists a process of denial, attributive projection assists a process of rationalization" (Sherwood, 1981, p. 446). The individual awareness of the possession of a particular trait in oneself lays the foundation for

the delineation of different types of projection on to others. Especially when an individual identifies undesirable traits in oneself, this individual is likely to see that trait in others rather than oneself. Sherwood (1979) addresses Projection Theory as a process where an individual, whether conscious or unconscious of a trait or skill, projects that trait or skill on another individual or group as a means of protecting oneself from a threat. Classical Projection Theory serves as an aid for denial that an individual possesses a trait that he deems negative in oneself and must be projected on an inferior other. With classical Projection Theory, not only will the individual deny the existence of a negative trait or characteristic in oneself, the individual will extend the denial of the trait or characteristic to their best friend or even social group (Sherwood, 1981). Bramel (1962), through the investigation of an individual exposed to the possession of an undesirable trait in self, finds an individual would project the undesirable trait on a favored group rather than a less favorable group. In this way, the undesirable trait becomes more tolerable to that individual. It is the differentiation in the individual's ability to consciously understand his possession of the trait that sets apart these types of Projection Theory (Chalus, 1978).

Holmes (1968) suggests attributive projection takes place when an individual is fully aware of and self-ascribes to the characteristic that he is projecting onto others. On a related note, Freud's work (1956) also addresses the awareness of a characteristic (trait), but Freud ascribed that recognition of a trait to a feeling of "reproach" towards other individuals in possession of that trait. The feeling of "reproach" sets into play a cognitive dissonance in the individual which must be resolved (Bramel, 1962). The application of cognitive dissonance around the possession of the trait can change the undesirability of the trait in the eyes of the possessor (Chalus, 1978). When the cognitive dissonance is applied to the individual or situation, the theory suggests that same individual would then choose to believe that others

would also possess the same trait, thus changing the nature of the projection (Horney, 1939). While the focus has been on the negative traits, research has also been conducted on the attributive Projection Theory for desirable traits. Goldings (1954) found that when examining a trait, such as happiness, the individual possessing the trait can project this trait onto others. Similar findings around the projection of desirable traits are also demonstrated in the areas of likability and generosity (Wylie, 1957).

Projection Theory, whether classical or attributive, deals with traits or characteristics often interpreted to have negative connotations. Classical Projection Theory begins with the denial of the existence of the trait by the individual and then serves as a defense mechanism. The application of defense by provides a means to identify and deal with individual shortcomings in a manner which removes a level of threat, fear or inadequacy on the part of oneself (Sherman, 1981). While attributive Projection Theory begins with the individual self-identifying with the trait or characteristic, then applying that projection to the individual or in-group (Holmes, 1968). Sherwood (1981) suggested the group (positive or negative peer group) on which the individual projects the traits could also serve as a delineation factor when determining if the application of Projection Theory is classical or attributive in nature. A contributing factor for the application of a trait, characteristic, or skill to oneself and a positive peer group may rely on the hypothetical or unverifiable nature of the trait, characteristic or skill (Ross, Greene, & House, 1977). The unverifiable nature of the attributed trait can allow an individual to self-identify with little or no connection to the reality of the possession. This outcome related to Projection Theory is called false consensus, where an individual believes his characteristics or traits are status quo or the commonly accepted characteristic or trait.

False consensus is defined as when an individual sees his/her “own behavioral choices

and judgments as relatively common and appropriate to existing circumstances” (Ross, Greene, & House, 1977, p. 280). Some argue that the sphere of influence Projection Theory has on false consensus can be found in the interaction of individual behaviors and social settings. This includes when an individual embraces rumors or even brags about actions or beliefs to a peer (Matsueda & Anderson, 1998). As projection moves from the individual to the area of consensus it becomes necessary to examine the accuracy of the consensus belief. The application of attributive Projection Theory at the individual level can rely on the perceived consensus of the social group.

Hoch (1987) believed investigations into false consensus had not examined whether the nature of the perceived consensus was appropriate to the social setting, nor the potential impact on the performance of the individual or group towards or away from the perceived consensus. When individuals were educated about the nature of false consensus effect as a part of Projection Theory, the same individuals continued to overestimate the similarities between themselves and other individuals (Krueger & Clement, 1994). False consensus, when looking at positively attributing a skill or choice onto another individual or group, moves Projection Theory into the realm of social projection. The importance of the social setting or network the individual is actively engaged in has a clear impact on individual opinions and behaviors (Gladwell, 2002).

An investigation into the impact of social projection has shown that individuals have a consistent propensity in self-selected social settings to perceive themselves in a manner consistent with the other individuals in the same social setting (Cho & Knowles, 2013). Social projection can be understood through a positive correlation between an individual’s personal choice and the projected likelihood that another individual is making the same choice or decision (Orhun & Urminsky, 2013). Social projection provides the opportunity for the personal choice

of the individual to permeate the social setting thus expanding the implementation of the characteristic or trait. A body of research has examined the adoption rate of a belief or opinion throughout a group of individuals in an interactive social setting and findings suggest the more pervasive the belief or opinion within the social setting, the greater the adoption of the belief or opinion of the group (Doyle, Sreenivasan, Szymanski, & Korniss, 2016). The pervasiveness of the characteristic or trait that expanded through social projection now carries a greater weight which continues to drive the adoption level.

The internalization and application of experiences by the individual has long been of interest to the psychological community. Freud (1956) suggests that ego was one of the foundational underpinnings of the individual to project their beliefs, opinions or inadequacies on external individuals. The ego is the psychological layer to the individual where the internalization and application of experiences are rooted and demonstrated for the collective community. When the individual ego is placed in a collective group setting, the power of the individual belief relinquishes to identify the belief of the ego to the collective whole (Kashima, Wilson, Lusher, Pearson, & Pearson, 2013). However, the research does not suggest a direct correlation between social consensus and perceived accuracy and internal motivational. Thereby, external factors play a migrating role in the decision-making environment (Alloy & Tabachnik, 1984). Holmes (1968) differentiated two types of Projection Theory and defined attributive Projection Theory as when an individual is aware of the trait or belief within themselves and then projects that belief or trait onto to others or groups in a social setting as a means of identification. This projection can lead to a group believing all individuals within the group have the same belief or trait. Social consensus that arises from false consensus is fragile in nature and relies on the complex and multiple interpersonal relationships of the individuals in the

group (Zhang, Duan, & Geng, 2017). According to Holmes (1968) individual beliefs or opinions and the individual level of attribution serve as the starting point for Projection Theory, but the social setting is the mechanism for expansion of a belief or opinion. Teaching is a social endeavour that relies upon the interactions of individuals in the social setting to manifest holistic change. The application of projection in the attributive form in a social network setting such as a school provides the teachers with the ability to safely embrace a change. With each individual projecting a change in behavior on a respected peer group the consensus for the change grows. The individual teacher must begin the adoption of the trait in their instruction to reconcile the discord between the projection, social consensus, and the current level of fidelity and understanding of the instructional shift. As the individual adopts the a desired characteristic or trait the pervasiveness of the trait grows in the social setting leading to increased adoption of the characteristic or trait.

Social Cognitive Theory

Social Cognitive Theory posits that an individual's acquisition of skills comes directly through observation and social interactions. Social cognitive theory is based on the understanding that behavior functions as the result of the interaction which includes cognition, behavior, and the environment (Goddard, Goddard, Kim, & Miller, 2015). The theory provides a framework for the understanding that learning comes from dynamic and collaborative interactions between individuals, groups, and the environment (Bandura, 1986b). The social constructs of the theory are the external impacts on the individual, but the internal beliefs and actions determine the resulting actions of the individual. Social Cognitive Theory as related to personality could be viewed as the tools and mechanisms an individual uses to interact with environment and assign personal meaning to actions and plans (Caprara, Vecchinone,

Barbaranelli, & Alessandri, 2013). Some of the individual components of Social Cognitive Theory are identified as self-efficacy and self-regulation (Zimmerman, 2013). Self-efficacy and self-regulation are the internal tools that the individual uses to act upon the socially desirable characteristic or trait. The implementation of those internal tools determines not only the timeline for learning and implementation of the characteristic or trait, but they can also dictate the individuals prolonged and continued use or fidelity to the characteristic or trait.

Bandura (1986b) examines the implementation of Social Cognitive Theory as a theory of action that has the potential to change a learned behavior. When examining the willingness and the ability of an individual to change a learned behavior, the level of self-efficacy reported determined if that individual engaged in the attempt to change the behavior (Heydari, Dashtgard, & Moghadman, 2014). The individual's application of these internal belief systems to the social setting and modeling of behavior or skills is the beginning point for change in the individual. The social setting becomes the Social Cognitive Theory in action within the individual. As the level of self-efficacy increases for the individual the level of change in the individual also increases impacting the social setting or organization. Heydari, Dashtgard, and Moghadman (2014) observed a positive impact on the reported level of self-efficacy when applying Social Cognitive Theory and efficacy to the level of change in an educational program.

Bandura in his work with Social Cognitive Theory posited that skill acquisition is a process with distinct steps that need to occur for successful adoption of and skill by an individual. Bandura (1986a) identified three components that must occur to assure the acquisition of a new skill or behavior: observation of the modeled behavior, encoding of the behavior by the observer, and translation of the encoded behavior into an action. The acquisition begins with an individual having the skill modeled in a way that is relevant to the learner and is

proficient in action (Baldwin, 1992). The relevancy and level of proficiency of the modeled skill leads to a stronger social sense and fortifies relationships with the observed group of likewise individuals such as teachers (Erwin, 1994). This improved feeling of the relationship increases the sense of identification and worth. The identification increase is seen not only in the group or individual modeling the behavior, but also with the desired skill creating social capital for the group and the skill. When applied as a construct to support Social Cognitive Theory, the application of social capital provides a better understanding of the need for social behaviors in the acquisition of skills (Chiu, Hsu, & Wang, 2006).

When reviewing the three components outlined by Bandura, social capital plays a role in the encoding of the behavior of the observed person modeling the skill. Social capital is defined as the social structure of the organization that adds value or determines action on behalf of an individual within the social structure (Coleman, 1990). Districts, schools and even classrooms rely on the naturally occurring social capital to move forward and structures on methodologies such as something as simple as a bell change to something as complex as a new instructional strategy in the classroom like blended learning. The social network of the individual and the resources that the social network brings to the individual greatly influence the level of sharing and modeling, resulting in the efficacy of knowledge exchange (Lane & Lubatkin, 1998). Social capital is also described as having three components: framework of the network, relational nature of the social network and cognitive and the shared meanings of the network (Nahapiet & Ghoshal, 1998). The emphasis on the social network was heralded by Bandura (1989b) as being the lever by which an individual's behaviors are shaped, such as the school or classroom serving as the social network.

The translation of the encoded skill into action relies on the self-regulation and agency of

the individual. Self-regulation is defined as the manner in which an individual presides over their own behavior (Bandura, 2004). Human agency is defined as the ability of an individual to make decisions and choices and then proceed to act upon those choices (Martin, 2004). Individuals use a variety of techniques and tools to regulate themselves through the process of learning a skill. When there is a specific end target for the acquisition of a skill, many individuals will use checklists and progress monitoring of tasks until the new skill is acquired (Koo & Fishbach, 2014). If the skill is not of such a discrete nature, but may cover a concept such as academic self-regulation, then the interest level of the individual becomes a contributing factor on the level of regulation and action on the part of the individual (Lee, Lee, & Bong, 2014). The translation of the observed behavior into an action is the shift from belief to agency on behalf of the individual. The core of human agency is the belief that an individual has control of the events that can and do affect his life (Bandura, 1989a). Human and personal agency present themselves in an individual's ability to self-regulate their interactions within the environment and social forces. Human agency plays the role of a compelling force in the individual to make a change to any aspect of their life including necessary changes as requirements for jobs shift and move as needed for social settings growth. Lent (2013) highlights that agency can be impacted by many factors including social and financial environments. A level of self-regulation must be present for the belief to be transformed into action (Hasking, Boyes, & Mullan, 2015). While social forces play a leading role in the progression of the acquisition of a skill, the social forces reduce in nature and the individual forces become the driving factor for application and retention of the skill (Zimmerman, 2013). These same social forces in the educational setting ensure the required rapid growth of a skill set by a large number of individuals required for the potential scale of the implementation. The social forces also influence the continued individual

motivation to ensure that skills and strategies learned continue to implementation fidelity that result in educational change.

Bandura's (2004) core constructs encompass both the internal and external forces in the application of Social Cognitive Theory. The internal (cognitive) portion of the theory seeks to explain knowledge acquisition of skills or beliefs, while the external (social) quality addresses some of the behavioral or environmental aspects that impact the acquisition of the skill or trait (Stajkovic & Luthans, 1998). Self-efficacy is one of the core constructs of Social Cognitive Theory. This construct has been proven to directly impact the willingness of the individual to engage in the process of the acquisition of a new skill (Heydari, Dashtgard, & Moghadman, 2014). The second core construct listed by Bandura was outcome expectations. The outcome expectations are the force and direction to the application of the Social Cognitive Theory. When outcome expectations are outlined and understood there is a linear connection with the individual planning and action (Wohrmann, Deller, & Wang, 2013). The final core construct outlined is goals. This construct in Social Cognitive Theory directly relates to the agency of the individual. If the individual is allowed to set goals in the application of Social Cognitive Theory and the acquisition of skills, the intention to act or human agency towards the goals occurs at a much higher rate (Oppong, 2014). The perceived fit of the goal, skill or trait undergoes a cognitive analysis of an individual's ability to integrate the goal, skill or trait into the daily practice or life (Cable & DuRue, 2002).

Further research has identified Social Cognitive Theory as the reciprocal nature of personal interactions, behaviors, and the social networks of the individual (Chiu, Hsu, & Wang, 2006). Through the process of interpersonal relationships, the individual can learn specific social behaviors that can be unique to the group or social setting. Bandura (1991) highlighted

the idea that if only external factors were at the root of individual action then individuals would simply be reactive agents; but the additional layers of self-reflection and regulation ensure the internal, as well as the external, factors of Social Cognitive Theory. It is through the acquisition of tailored and often specific social behaviors, which come by way of observation and interaction, that the ability to improve the existing or new interpersonal relationships takes place (Baldwin, 1992). The interactive nature of the classroom and school utilizing existing and emerging organizational structures provides the time and space for teachers to engage in thoughtful and reflective practices that further the development of instructional skills and strategies ensuring an internalization of the desired change.

The theoretical framework highlights the research conducted around Projection Theory and Social Cognitive Theory as each of these theories operates in isolation. Projection Theory research provides an understanding of the construct of social desirability. The information from the research and an understanding of the application of projection (classical or attributive) underlines the social nature of the Projection Theory. Social Cognitive Theory research provides an understanding of human behavior and the acquisition of skills. Later research highlights the reciprocal nature in the application of Social Cognitive Theory. The social nature involved in both theories are key to the acquisition and implementation of a skill in a social setting. Education and learning are social institutions that rely on interaction between content, methods of delivery, institutions and individuals to ensure student learning. The level of urgency that the educational system places on students and teachers extends the need for the social aspect of teaching and learning. The constructs of social desirability and teacher efficacy that result from the application of Projection Theory and Social Cognitive Theory rely on the social setting that exists in schools and classrooms to flourish. The implementation of a new instruction strategy

like blended learning in a secondary school and classroom may be greatly impacted not only by these theories, but by their resulting constructs.

Related Literature

Social Desirability

Social desirability is defined as the tendency of an individual to respond in a manner that is perceived to be overtly positive (Crowne & Marlowe, 1964). Early research by Edwards (1957) examined the construct of social desirability as a one-dimensional action that provides singular insight into the way an individual presents himself to others. The belief is that the individual responds in a way to ensure he or she is seen favorably by others (Rodriquez-Campos, Berson, Owens, Egea-Walker, & Belara, 2014). The responses provided by the individual, while presenting a positive impression or opinion, are independent of the individual's true feelings or actions and can be the result of individual impression management (Brenner & DeLamater, 2014). It has been demonstrated the context of the situation in which an individual is operating can lead to the presentation of oneself in the socially desirable manner (de Vries, Zettler, & Hilbig, 2014). Social desirability is subject to the social forces that are inherent in any group setting. Educational settings, such as districts, schools, and importantly classrooms, make up the social network that can impact social desirability for all individuals that willingly or unwillingly comprise the social network.

Due to the nature of the dynamic interactions within groups in a variety of social networks, the social sciences have led to an increased amount of data and research being collected around the impact of social desirability. Social science and educational research have relied upon self-administered surveys and questionnaires as a primary method of data collection (Clifford & Jerit, 2015). The reliance on the self-reporting tool as a primary data collection

methodology increases the potentially inaccurate responses, including over claiming a belief or trait and/or overconfidence in the individual's belief system or skill set (Bensch, Paulhus, Stankov, & Ziegler, 2017). The collection of data in the social sciences by self-reporting has led to social desirability bias in reporting (de Vries, Zettler, & Hilbig, 2014). Social desirability bias occurs when an individual responds to the self-reporting survey and answers the questions based on their individual or group motives rather than on the actual content of the question (Mckibben & Silva, 2015).

Self-reporting tools can also be impacted by inattentive participants are an additional factor in self-reporting surveys that impacts biased collection of data. Research demonstrated that inattentive or careless survey respondents using answering strategies such as patterned responses yielded higher scores on the perceived socially desirable construct of creativity (Mckibben & Silva, 2015). Recent research has concluded that older individuals have higher levels of social desirable bias reporting (Haberecht, Schnuerer, Gaertner, John, & Freyer-Adam, 2015). Extending the previous research on the examination of age in social desirability bias reporting concluded that age, particularly those over the age of 50, had an impact on the manner in which a respondent answers survey questions (Vigil-Colet, Morales-Vives, & Lorenzo-Seva, 2013). The social sciences have identified many areas in which the concept of social desirability bias reporting tends to appear, including personal income, illegal, or illicit acts, intellectual achievement, compliance and/or competence. It is these types of sensitive questions, potentially having a larger impact on the reporting bias that skews the reported results towards the perceived socially desirable outcome (Krumpal, 2013). However the ease of collection data methodology, especially with the readily accessible technology, increases the use of self-reporting surveys as a viable tool in spite of the opportunity for bias to appear in the results.

Social desirability bias as an extension of social desirability construct shows some individuals will respond to questions or prompts in a manner they believe to be the desirable choice instead of their true feelings about the topic (Brenner & DeLamater, 2014). In a study about leadership, Densten and Sarros (2012) found self-deception and perceived public impressions upon others were a motivating factor in the bias of the self-reported data. Brenner and DeLamater (2013) also investigated self-reported data of physical activity by individuals. They found the desire to present oneself in their desired identity led to the over reporting of behaviors. When examining the responses to questions from a professor to undergraduate students, the data showed the students were responding in a way they believed was in a favorable manner to the lecturer (Korstanje, 2012).

The context and usage of data collected in the self-reporting surveys has a potential impact on the reporting bias. A self-reporting tool perceived to be high stakes and potentially impactful on the individual in his or her personal life or career will show a higher level of bias reporting (Tracey, 2016). Krumpal (2013) researched the context and content questions often used in self-reporting surveys, such as compliance and behavior questions. They found these types of contextual questions have a larger potential impact on the reporting bias. The level of social desirability bias reporting when collecting data through individual responses to surveys is an established constant (DoDou & de Winter, 2014). However, a conflicting investigation demonstrated that the level of social desirability bias in reporting is not a constant factor and has had a reported variation based on the interactions of individuals within the group (Haberecht, Schnuerer, Gaertner, John, & Freyer-Adam, 2015). The result of over reporting leaves doubts upon the use of social desirability construct; however, research conducted by Persson and Solevid (2014) concluded the investigation in correlation with other measured variables is not

put at risk in self-reported surveys, regardless of the potential over-reporting of a behavior or skill.

Social desirability can be identified in the development of the phenomenon of idealism and the formation of social consensus (Bateman, Valentine, & Rittenburg, 2013). Poropat (2014) acknowledged that social desirability can be associated with the personality factors of an individual such as extraversion or agreeableness. A high stakes and potentially impactful survey that produces a higher level of bias (Tracey, 2016) potentially begins the process of consensus effect. Brenner & DeLamater (2014) stated while the individual may have presented a positive impression or opinion, these impressions can be independent of the individual's true feelings or actions and can be the result of individual working to reconcile their internal impressions of oneself with potentially conflicting impressions or opinions. This extends to the potential impact on the performance or behaviors of the individual or group towards or away from the perceived consensus. An additional factor from a recent study suggests that self-reporting measures have shown bias due to the internal mechanism of cognitive dissonance within the individual (Kahn, Ratan, & Williams, 2014).

Cognitive dissonance is defined as the action or belief of an individual in direct conflict with their current attitude or belief (Wicklund & Breheim, 1976). In order to reduce experiencing cognitive dissonance the individual must engage in discrepancy reduction in order to remove the source of the dissonance (Hinojosa, Gardner, Walker, Cogliser, & Gullifor, 2017). Proulx, Inzlicht, & Harmon-Jones (2012) highlight that dissonance can occur in the individual not only on a social cognitive level, but also at the level of individual perceptions and values. An action model of dissonance resolution frames the result of the dissonance as a motivational process which can result in behaviors alleviating the conflict (Harmon-Jones, Harmon-Jones, & Levy,

2015). Randles et al. (2015) focuses on dissonance occurring in relation to compliance, finding this perceived dissonance in the individual can lead to greater affirmation to the belief. The validity of the belief is not in question, however the perceived dissonance results in increased amount of time and focus directed to the problem, goal or belief (Guazzini, Yoneki, & Gronchi, 2015). The effect of social desirability on the building of social consensus is a direct result of the multiple interpersonal relationships the individuals have within the group (Zhang, Duan, & Geng, 2017). Through expansion by consensus effect, the perceived dissonance in the group setting contributes to the increased impact and intensity of change in attitude by the group struggling with the dissonant belief (Martinie, Olive, Milland, Joule, & Capa, 2013). The social context and the actions and beliefs of the group have the ability to shift the goals of the group to the achieved consensus (Lindenberg, 2014).

The resulting dissonance between the individual's professed self and the individual's reality of self can result in individual motivation. A review of dissonance as a motivational factor demonstrates that resolving the inconsistencies caused by the discrepancy generally relates to behavior and action associated with the behavioral change (Harmon-Jones, Harmon-Jones, & Levy, 2015). Zeng (2012) found individuals identifying with a socially desirable construct tend to immerse themselves more deeply in the social setting around the identified construct, allowing for motivation to change to impact the individual. A result of the dissonance between the arrived socially constructed consensus and the individual, combined with the cross group interactions, can result in a higher level of self-motivation (Davis, Wright, Aron, & Comeau, 2013). Edwards (1957) focused on the nature of social desirability as being one-dimensional and residing in the reported bias alone. The one-dimensional approach was based on the understanding that the survey tools used items that only related to one specific construct

(Vesteinsdottir, Reips, Joinson, & Thorsdottir, 2017). The dynamic of social desirability as two-dimensional beginning with the reported bias which indicates a need for approval on the part of the individual is recognized. However, the second dimension to the process is individual reflection on the perceived level of individual change needed by the individual to reach the self-reported level of social desirability (Helmes & Holden, 2003). Ventimiglia & MacDonald (2012) found that when both one- and two-dimensional models occur that there is a higher correlation with the two-dimensional model. Ross, Greene, & House (1977) identified a contributing factor for the application of a trait, characteristic or skill to oneself and a positive peer group may rely on the hypothetical or unverifiable nature of a trait, characteristic or skill. Wojcik and Ditto (2014) expand on the research when examining motivation and self reported levels of personal happiness, finding that the absence of effective validation of the variable led to the increased scrutiny of that same variable. Dys-Steenbergen, Wright and Aron (2016) found these higher levels of self motivation have a lasting effect on the individual level of self-efficacy.

Teacher Efficacy

Teacher efficacy can be examined outside the frame of individual beliefs, but also within the frame of teacher willingness (Dixon, Yssel, McConnell, & Hardin, 2014). While the level of self-efficacy has been traditionally examined as a within-person approach, research has demonstrated that self-efficacy can be seen in between-person results (Vancouver, Gullekson, Morse, & Warren, 2014). Collective willingness and shared learning can build collective efficacy in a group experiencing a modeled skill (Angelle & Teague, 2014). Bandura (1997) expanded the framework of efficacy to include a reference to collective efficacy defined as the group's shared belief in its ability to organize and execute a course of action. This extension of efficacy moves beyond the application of the belief system of the individual, to the application of

the belief system with research showing that collective efficacy more than self-efficacy has a direct impact on task performance (Cherian & Jacob, 2013). Moreover, the level of individual efficacy for instructional strategy can be elevated by utilizing a supportive professional development environment and the established collective efficacy of the group (Lotter, Smiley, Thompson, & Dickenson, 2016).

Celik and Yesilyurt (2013) perceived technology efficacy as reported by the teacher could explain the attitudes of teachers applying technology to instructional practices within his classroom. Mahmoe and Pirkamali (2013) found a consistent linkage between self-efficacy of the individual and the resulting teacher behavior and student achievement, and college students studied demonstrated that individuals with high levels of self-efficacy believed that effort and desire impact the ability to change intelligence (Komarraju & Nadler, 2013). The level of change required in by teachers in an educational setting relies on this increased level of efficacy to ensure that the initial learning occurs, but also the change remains consistent to the level of fidelity to impact student achievement.

Blended Learning

According to the 2013 annual review of policy and practice for online and blended learning in the K-12 setting, schools in 24 states as well as the District of Columbia, were using a blended instructional approach (Watson, Murin, Vashaw, Gemin, & Rapp, 2013). Blended learning instruction is defined as an instructional strategy that leverages technology and face-to-face instruction working in concert with each other to raise the level of student engagement and learning (Graham, Woodfield, & Harrison, 2013). Furthermore, the blended leaning enviroment is defined as an approach to instruction where the individual student has control over some aspect of the time, place, path and pace of the instructional content (Horn & Staker, 2015). The

power of blended learning comes from the daily implementation by both the teacher and the student to utilize and leverage technology in instructional practices. Daily examples of blended learning could include the utilization of websites providing standards and objectives to students and parents, utilization of formative assessment data collected through technology, and having hours for student interaction both synchronous and asynchronous outside of the typical school hours (Oliver, 2014). In many cases blended learning instruction is provided by the teachers to the students leveraging a Learning Management System: these systems provide the opportunities for students to participate in discussions outside the classroom, participate in formative assessments and receive instant feedback through the system (Padilla-Melendez, del Aguilar-Obra, & Garrido-Moreno, 2013). Inherent in the implementations of blended instruction variations in the tools, applications, and time with the technology will vary to meet the needs of the instructional setting. Deschacht and Goeman (2015) replaced fifty percent of the traditional face-to-face content approximately eight of 16 hours with technology enhanced instruction using web-based applications such as videos and formative assessments to arrive at a perceived level of blended instruction. As a result, Deschacht and Goeman found that the total proportion of students completing the coursework was slightly larger with the implementation of the blended instructional model.

Several driving factors are causing the shift to blended learning instruction as an educational option such as the growing population, rising enrollments, scarcity of space, and economic impact (Baepler, Walker, & Driessen, 2014). As districts and institutions move to the implementation of blended learning, the focus and energy moves to the need for digital tools, literacy and content. Reid (2014) identified access to reliable technology and the complexity of the technology tools as an external factor which must be addressed for a successful blended

learning initiative. Ting (2015) notes that students today have the skills necessary to create, access and share digital content. The conclusion is individuals who have a high level of digital literacy have the ability to adapt to the online or blended learning instructional environment (Mohammadyari & Singh, 2015). In order for students to be successful in the blended learning instructional environment they must be be digitally literate (Tang & Chaw, 2016). Brown (2016) concluded that the technological component of blended instruction is consistently influential in the change of traditional instruction. Traditional instruction is characterized by the use of traditional materials such as textbooks where first instruction into a specific topic happens in a classroom setting under the direction of the teacher.

The digital and technological features of the implementation and successful adoption of blended learning instruction are only one portion of a successful move to the blended learning environment; other pedagogical considerations must be addressed in the process (Benson & Kolsaker, 2015). The focus on blended learning instruction not only needs to consider the role of technology, but must also consider the supports needed for teachers to implement the enhanced face-to-face instruction that is a required portion of the instructional strategy (Means, Toyama, Murphy, & Baki, 2013). The other hallmark features of blended learning, enhanced face-to-face instruction, supplemented with technology, provide the means to personalize and extend the instruction for the individual student (Graham, Woodfield, & Harrison, 2013). Internationally, this instructional approach has been identified as hybrid learning or mixed learning. However, at the core of blended learning instruction is the combination of enhanced traditional instructional strategies combined with technology rich instruction (Kazu & Demirkol, 2013). With the support of the face-to-face instruction, blended learning instruction promotes both the independent learning necessary for academic growth, as well as support for students in the online

environment (Deschacht & Goeman, 2015). The belief is that by introducing a hybrid vision of instruction the students can get the best of both genres of instruction and increase engagement and ownership of his or her learning and the learning process (Christenson, Horn, & Staker, 2013).

Graham et al. (2013) developed a framework for the successful implementation of blended learning instruction. This framework included the strategy for implementation, the necessary internal structures including technology and pedagogy, the supports for the faculty through professional development and instructional supports for the learner. One core consideration when investigating the framework for implementation is the need to begin with the definition of blended learning, followed by a detailed implementation plan supported by research. The implementation phase advocated by Graham et al. (2013) highlights the need for setting expectations, measures, common language, and definitions of the type of program being implemented. The process of simply identifying instruction as blended learning instruction does not produce a convergent understanding of the instructional practice; the definition and implementation often hinges on the personal interpretation of the practice rather than an institutionalized understanding (Hinrichsen & Coombs, 2013).

As institutions have adopted the broad or nebulous definitions of blended learning instruction, it becomes difficult to identify the level to which the instruction is actually occurring in classrooms (Graham, Woodfield, & Harrison, 2013). One of the resulting approaches which arises from the difficulty in identifying and documenting the level of implementation around blended learning instruction is to actually shift the mindset of teachers, but also students when examining the implementation of this instructional model. As universities, districts, and schools delve deeper into blended learning, some institutions are framing the instructional tool as a

mental model rather than a discrete, quantifiable approach (Moskal, Dziuban, & Hartman, 2013). A mental model is defined by Senge (1990) as an internally and individually held picture of the world or situation which can be influenced greatly by the context or setting. The approach of delimiting blended learning instruction as a mental model lends to the potential that instruction may be documented as blended based solely on the opinion or belief of a single individual.

Most institutions rely on others to define blended learning instruction and the resulting environment in which it is implemented. One common example of blended learning instruction is flipped learning. Using technology, the learner partakes in or consumes the traditional lecture-style instruction as an out of class activity such as a video taped lecture. In turn, when returning to the brick and mortar classroom, the learner receives face-to-face instruction based on the the previously presented content (Roach, 2014). This blended learning instructional approach coupled with improved technology and wide ranging digital content has students accessing resources and materials above and beyond the scope of the traditional educational setting (Lai, Khaddaget, & Knezek, 2013). Merchant (2012) advocates for leveraging this self-initiated level of informal technology use and digital content access to enhance the formal educational and instructional setting. Shifting teachers into the role of the learner as new instructional skills and strategies are introduced produces divergent results. As Giles and Kent's (2016) research reveal that while pre-service teachers have experience using technology in their daily lives, the level of technology instruction in preparation programs is minimal to none. This disconnect between social uses of technology and technology in the aid of instruction provides fertile ground for the diffusion of innovation and technology to support instruction. Rodgers explains diffusion as "the process by which an innovation is communicated through certain channels over time among the members of a social system" to hopefully reach saturation (Rodgers, 2003, p. 5). All teachers

and instructors implementing blended learning have access to professional development on uses of technology.

In an organizational setting, one of the largest contributing factors to initiating a change in behavior is job satisfaction on behalf of not only the individual, but also the institution (Iljins, Skvarciany, & Gaile-Sarkane, 2015). Projection Theory and Social Cognitive Theory potentially play a role in the level of job satisfaction. The constructs that result from the two theories are social desirability and efficacy. These constructs play a key role in determining the magnitude of possible change and the individual's belief that the order of change can be completed. The 2014 Horizon report, which collects and quantifies survey data around technology topics and trends, still identified digital fluency and confidence with emerging technologies by the instructor as a potential barrier to scaled implementation of blended learning (Johnson, 2014). The report points to the lack of a diffusion process around blended learning at the strategy phase of the implementation.

Graham (2013) highlights several reasons why schools and institutions are moving to blended learning instruction, including improved individual learner outcomes, convenience, and cost of the instructional strategy. As institutions, schools, and districts move forward with implementing the blended learning instructional model, universities continue to conduct research into the impact of the change to blended learning instruction as compared to traditional face-to-face instruction. In summary, the data collected from various studies does not provide a clear picture of the impact of the shift to the blended instructional model. Graham found that when the blended learning instructional model was applied to a high school biology curriculum the experimental group performed higher on post assessments than the students in the control group (Kazu & Demirkol, 2013). In addition, a study of high school students conducted in New

Zealand found no significant differences in the academic achievement of students participating in blended learning versus a more traditional instructional model; however, students, when rating the educational experience, indicated that the perceived level of learning by the students was higher in the blended learning implementation (Smith, 2013). While the research is currently providing inconsistent results for student achievement, this once again may be the result of fidelity to the definition and implementation of the instructional model. A 2014 review of literature in the area of blended learning concluded, in most cases, the level of implementation of the technological portion of blended learning focused on reproducing or reinforcing existing tasks in the classroom (Kirkwood & Price, 2013). Shank and Cotton (2014) found variation in the level of self-efficacy as related to different tasks related to the use of technology by teachers for instruction. The general sense of efficacy of the teacher and student around the use of technology had an impact academic efficacy resulting in a higher level of implementation of the technology tools as an integral part of instruction and learning (Giles & Kent, 2016).

Utilizing blended learning instruction as a tool with in-service teachers has shown knowledge acquisition growth by the in-service teachers, additionally all of the in-service teachers in the research found blended learning instruction provided additional time for reflection and independent application of the skills and an increased awareness in the self-efficacy of the teacher (Ho, Nakamori, Ho, & Lim, 2016). As a result of professional development, research articles, and coverage in the educational technology press, there is now a convergent body of evidence that blended instruction in the K-12 setting has become a socially desirable construct (Watson, Pape, Murin, Germin, & Vashaw, 2014). Giles and Kent (2014) extended the focus to specific uses of technology and found that when technology was used as a means of communication and collaboration through social networks the impact on efficacy was higher.

The utilization of the technology and social networks leverage the social nature of education and learning and extended the level of communication and collaboration beyond the normal constraints of time and place imposed by a traditional classroom environment.

A 2013 focus group of middle school teachers were gathered to discuss blended instruction (Michigan Virtual Learning Research Institute, 2016). The feedback indicated teachers felt the blended pedagogical approach to instruction was the most socially desirable instructional practice with the potential to impact student learning and engagement. Additionally, this group of teachers discussed and believed blended learning instruction supported a strong pedagogical framework. However, an additional data point from the focus group discussion and from survey data highlighted that the pressure from their administrators to change the instructional practice was very strong (Michigan Virtual Learning Research Institute, 2016). Research has shown that the instructional leadership in a school is a positive predictor of the efficacy beliefs of the group Goddard, Goddard, Kim, & Miller (2015). Chin, Li, and Leung (2016) investigated the impact of positive supervisor support to demonstrate that the positive support had a direct impact on the reported levels of general-efficacy of individuals in the organization. A convergent body of research suggest support for and the desirability of blended learning instructional strategies. By contrast, the same findings also indicate that these same teachers, despite support from school leadership, were not sure how to implement these instructional strategies in their daily practices (Parks, Oliver, & Carson, 2016). Kunnari and Ilomki (2014) found teachers teaching in a dichotomas manner, implementing older instructional strategies while simulatenously attempting to integrate or change to the new instructional models. There is evidence in reports from the focus groups that the term “blended learning instruction” was being identified as a practice that had merit for instruction in a classroom

(Michigan Virtual Learning Research Institute, 2016). The belief by teachers that the shift in the instructional strategy to a blended learning instructional approach helps to frame the social desirability of implementing an instructional strategy in a positive and potentially impactful manner. Research has shown that teachers who self-identify as implementing blended pedagogy are, in reality, more aligned with teachers implementing a traditional approach to instruction in the classroom (Parks, Oliver, & Carson, 2016), despite pressure to change and update blended learning practices (Michigan Virtual Learning Research Institute, 2016).

Graham, Woodfield, & Harrison (2013) concur that a valid and reliable measure of a blended learning environment has been difficult to establish given the imprecise and nonstandardized nature of the parameters of implementation. Despite the varied definitions of blended learning, focus groups (Michigan Virtual Learning Research Institute, 2016) have indicated the blended learning instruction is an instructional practice which holds merits for today's classrooms and students (Parks, Oliver, & Carson, 2016).

This shift in instructional strategy from traditional teaching to blended learning requires a change on the part of both teachers and students in the system. Kunnari and Iloimäki (2014) found when teachers implemented a change in their instructional processes they tended to use both traditional and blended learning strategies. The combination of face-to-face instruction, which is a required component of the blended learning environment, lends itself to the combination of traditional and innovative instructional strategies by the teacher. (Means, Toyama, Murphy, & Baki, 2013).

Summary

Projection Theory and Social Cognitive Theory serve as the foundation for the constructs of social desirability and teacher-efficacy. Holmes (1968) describes two applications of the

Projection Theory: classical projection and attributive projection. Sherwood (1981) suggested the group in which the individual is projecting the trait or skill onto can serve as the delineating factor in the application of Projection Theory. The differentiation of the individual consciously understanding his/her possession of the trait sets apart the types of Projection Theory. Through the act of acknowledging the existence of the trait in oneself the individual must make a conscious decision on the merits (positive or negative) of the trait. The application of merit to the trait is a driving factor in the type of projection (Chalus, 1978). Ross, Greene, and House (1977) examined the impact Projection Theory had on the development of a false or perceived group consensus. Projection through complex interactions and relationships led to individuals in a group having a sense of shared belief (Zhang, Duan, & Geng, 2017). Social Cognitive Theory provides an understanding that behavior functions as the result of the interaction which includes cognition, behavior and the environment (Goddard, Goddard, Kim, & Miller, 2015). Bandura's (1986) Social Cognitive Theory provides a framework for understanding the dynamic and collaborative nature contained within social settings and groups. Zimmerman (2013) identified two key elements, self-efficacy and self-regulation, as specific individual constructs which are a product of Social Cognitive Theory. Bandura (1991) highlights the role of the individual in self-reflection and regulation are key components of the Social Cognitive Theory.

Projection Theory and Social Cognitive Theory provide the theoretical groundwork for an investigation into the psychological constructs of social desirability and teacher efficacy. The understanding of these theories can be applied to the implementation of blended learning instruction, as this strategy is examined in light of the social setting that exists in a school and classroom and the nature of individuals to project a skill or trait that they may or may not possess on a particular peer (positive or negative) group as means of identification or denial of the

process. These combined theories explain the social nature of change and the belief in the change process. Blended instruction in the classroom is a change from the existing nature of instruction that relies not only on the technology, but the individuals interacting with the technology. Projection Theory in the attributive application relies on the social need for an individual to change to conform to an accepted best practice. Social Cognitive Theory relies not on the individual, but the reciprocal nature of a social setting to really expand the impact. Both of these theories result in constructs that directly impact the change nature of education and blended instruction.

Crowne and Marlow (1964) defined social desirability as the tendency of an individual to respond in a manner which would be perceived as overly positive. Social desirability bias holds that the individual provides responses in a manner, which is perceived as favorable regardless of individual's true feelings or understanding (Moorman & Podsakoff, 1992). Social desirability bias is documented in an educational setting through the way students respond to a lecturer (Korstanje, 2012). Densten and Sarros (2102) found the same social desirability bias in a study of leadership, citing forward facing impressions by the leaders as a driving factor in the responses. The desire to appear in a positive light in a leadership setting increased the reported social desirability of the reported trait. Ross, Greene, and House (1977) examined how social desirability can lead to false consensus. The resulting dissonance between the perceived consensus of the group and the individual buy in results in an increased amount of time and focus directed towards the perceived consensus (Guazzini, Yoneki, & Gronchi, 2015). Zemore (2012) shifted the examination of social desirability to focus on individuals identifying with a skill or trait that he wanted to possess and the accompanying motivation. Wojcik and Ditto (2014) examination of the traits of happiness and motivation found that social desirability

increased the reported levels of happiness and motivation. A contributing factor for the social consensus potentially resulting from social desirability may rely on the hypothetical or unverifiable nature of the trait, characteristic, or skill (Ross, Greene, & House, 1977). The nature and definition of happiness varies by individual while research found that the application of social desirability to this unverifiable trait increased the reported levels of happiness (Wojcik & Ditto, 2014). Social desirability has been shown to develop a perceived consensus and a higher level of motivation towards achievement in individuals (Dys-Steenbergen, Wright, & Aron, 2016).

Bandura (1986a) defines self-efficacy as one of the three developed psychological constructs which result from Social Cognitive Theory. Self-efficacy is defined as an individual's confidence in his/her ability to execute or complete tasks (Bandura, 1997). The impact of self-efficacy is demonstrated in many social sciences including the educational setting with student and teacher efficacy. Teacher efficacy is defined as a teachers' abilities to complete actions or directions to fill the occupational role of a teacher (Skaalvik & Skaalvik, 2010). Research suggests teachers with reported high rates of teacher efficacy demonstrate higher levels of instructional quality as reported by both other teachers and students (Holzberger, Phillipp, & Kunter, 2013). Further, Dixon et al. (2014) holds that a component of teacher efficacy is the willingness of the teacher to implement the tool or change in the classroom. Buchan (2014) found an individual's capacity to adapt to a changed environment is a cognizant choice by the individual. Chin, Li, and Leung (2016) find positive supervisor support has a direct impact on the reported levels of general efficacy of individuals in an organization. An teacher's perception of a leader practicing a transformational leadership style increases the level of organizational

value felt by the teacher and as a result that teacher's level of self-efficacy (Hannah, Peng, & Schaubroeck, 2015).

According to the 2013 review of policy and practice, 24 states, as well as the District of Columbia, are using a blended instruction approach (Watson, Murin, Vashaw, Gemin, & Rapp, 2013). Baepler, Walker, and Driessen (2014) identify several factors influencing schools and institutions to shift to blended learning instruction as an educational option such as the growing population, rising enrollments, scarcity of space, and economic impact. Data collected around blended implementations by Kazu and Demirkol (2013) and Smith (2013) have shown mixed academic results. Institutions are rushing to embrace the blended learning environment while utilizing a broad or nebulous definition of blended learning instruction, making the documentation of the level to which blended instruction is actually occurring in classrooms difficult to determine (Graham, Woodfield, & Harrison, 2013). However, focus groups have indicated that the blended learning instruction is known as an instructional practice which holds merits for his/her classroom and students (Parks, Oliver, & Carson, 2016). The result found by Kunnari and Iloimäki (2016) shows that teachers tend to teach in both world settings when implementing a change in the instructional process.

Teachers must let go of their traditional instructional practices for the implementation and successful adoption of new instructional strategies. A socially desirable construct impacts individual in a manner in which they immerse themselves more deeply in the social setting around the identified construct, allowing for motivation to change to impact the individual (Zenmore, 2012). The motivation for change can serve as linkage between self-efficacy of the individual and the resulting teacher behavior (Mahmood & Pirkamali, 2013). Kim, Kim, Lee, Spector, and Demeester (2013) identify a need to examine teachers' beliefs around teaching

when integrating technology into the instructional practices in order to have a higher level of implementation and successful adoption. Digital fluency and individual confidence with emerging technologies by the instructor are seen as a potential barrier to scaled implementation of blended learning (Johnson, 2014).

CHAPTER THREE: METHODS

Overview

The implementation of new skills or instructional strategies in schools and classrooms nationwide is undergoing increasing demands due to a number of external and internal factors. This chapter will address the design, research question, instrumentation, procedures, and data analysis used in the research process. The conceptual knowledge of the research focused on two theories: Projection Theory and Social Cognitive Theory. The related research discusses how these theories impact the understanding and application of social desirability and teacher efficacy. Blended Learning is broadly defined as pedagogical approach to learning where the student has control to some degree over the time, place, pace, and path of the learning process (Horn & Staker, 2015). When examining the day-to-day components of the implementation of blended learning the level of both teacher and student interaction with the technology and the manner of collaboration utilizing the tools help to define fidelity of implementation (Oliver, 2014). This chapter will address the factors that impact the design and implementation of the blended learning model. This chapter will conclude with a discussion of the methods employed to reduce errors in the data analysis and provide a pathway for further data examination.

Design

This quantitative study used a correlational design to examine the relationship between social desirability for the implementation of blended learning instruction and teacher efficacy. The purpose of this study was to determine if a relationship exists between the predictor variable of social desirability as previously defined and the criterion variable of teacher efficacy for the implementation of blended learning instruction. Lim and Eo (2014) used a correlational design in a study that examined teacher efficacy and school organizational climate. According to Gall

and Borg (2007) this type of research is appropriate based on the desire to measure the direction and magnitude of a relationship between two variables using correlational statistics.

Research Question

RQ1: Is there a relationship in the reporting of social desirability for blended learning instruction and teacher efficacy in secondary teachers?

Null Hypotheses

H₀1: There is no significant correlation between social desirability for the implementation of blended learning instruction as measured by Blended Practice Profile and teacher efficacy as measured by the *Teacher Sense of Efficacy Scale* for blended instruction in secondary teachers.

H₀2: There is no significant correlation between social desirability for the implementation of blended learning instruction as measured by Blended Practice Profile and teacher efficacy as measured by the *Teacher Sense of Efficacy Scale* on the subscale of instructional strategies in secondary teachers.

H₀3: There is no significant correlation between social desirability for the implementation of blended learning instruction as measured by Blended Practice Profile and teacher efficacy as measured by the *Teacher Sense of Efficacy Scale* on the subscale of student engagement in secondary teachers.

Participants and Setting

The population for this study was comprised of de-identified archival data collected from 226 secondary teachers who completed the Blended Practice Profile survey as part of several district initiatives to shift the instructional practices in classrooms to a blended instructional delivery of content. The respondents to the survey were 69% female and 31% male. The

ethnicities reported were 66% white, 20% Black or African American, 3% Hispanic or Latino, 1% American Indian or Alaskan Native, 1% Asian/Pacific Islander, and 9% not identified. The educational level of the respondents was 34% Bachelors, 33% Masters, 23% Master's Plus, 4% Ed.S., 1% Ed.D./Ph.D. and 2% other. The length of teaching time for the respondents was 5% teaching less than 1 year, 17% teaching between 1-4 years, 20% teaching between 5-9 years, 21% teaching 10-14 years, 13% teaching 15-19 years, and 18% teaching between 20-24 years. The classroom teaching environment for the respondents was 90% teaching in a physical classroom, 9% floating between multiple classrooms, and 1% teaching online. The teachers voluntarily completing the Blended Practice Profile survey online teach in seven middle and high schools in several separate geographical locations in the United States as part of multiple districts' preparation for implementation and successful adoption of blended learning as a new instructional strategy. All data belonging to the individuals participating in the study will be scrubbed of personally identifiable information to ensure anonymity. Categorical data collection from the survey will include location, male/female, years teaching 10-year increment ranges, grade level taught, and highest degree received.

For this study, the number of participants sampled was 226, which will exceed the required minimum for a medium effect size. According to Gall et al. (2007), 66 participants are the required minimum for a medium effect size with statistical power of .7 at the .05 alpha level. The population for this study were all teachers completing the Blended Practice Profile survey as a portion of a professional development plan in several separate geographical locations in the United States as part of multiple districts' preparation for implementation and successful adoption of blended learning.

Instrumentation

For this study, one instrument was used to measure the variable of social desirability for the implementation of blended learning instruction and teacher efficacy. The *Blended Practice Profile* was used as a measure of social desirability for the implementation of blended learning instruction. The questions related to teacher efficacy occurred at the end of the survey and used the TSES (*Teacher Sense of Efficacy Scale*) to measure overall efficacy and the level of efficacy on the three subscales of classroom management, instructional strategies and student engagement (Tschannen-Moran & Woolfolk, 2001).

The purpose of the Blended Practice Profile tool was to measure the level of social desirability for blended instructional practices and the level of implementation and fidelity of those instructional practices occurring in the classroom. The Blended Practice Profile was an instrument designed in response to survey of teachers by the organization iNACOL that found teachers had a desire to understand and receive professional development for blended instruction. The Blended Practice Profile was developed utilizing the current organizational and educational practices of blended instruction and is aligned to Dr. Oliver's Framework for Blended Instruction. (Oliver, 2014). The purpose of the instrument is to measure the level of social desirability for blended instructional practices and the level of implementation and fidelity of blended instructional practices occurring in the classroom.

To ensure the validity of the instrument, the approximately 100 questions used in the tool were reviewed in 2014 by a national sample of subject matter experts (Parks, Carson, & Oliver, 2016). The survey was administered to 366 participants for the validation of the tool. (Michigan Virtual Learning Research Institute, 2016). The survey tool consisted of 100 questions and used a seven-point Likert scale, which ranged from Almost Never True to Always True. Responses

were as follows: Almost Never True = 1, Usually Not True = 2, Sometimes but Infrequently True = 3, Occasionally True = 4, Usually True = 5, Almost Always True = 6, and Always True = 7. The combined possible score on the *Blended Practice Profile* ranged from 33 to 231 points with 33 being the lowest level of understanding and application of blended instructional strategy and 231 being the highest level of the understanding and application of the blended instructional strategy. While the Blended Practice Profile survey tool is a collection tool that was recently developed the survey tool was utilized in a study examining professional development and teacher readiness for blended pedagogy that appeared in the peer-reviewed *Journal of Online Learning Research* (Parks, Oliver, & Carson, 2016). Completion of the online survey takes approximately 30-45 minutes based on the reflection on practice by the individual. Upon completion, the survey has the scoring auto generated and the participant receives a brief overview of their responses. The Cronbach's alpha used to measure the internal reliability of the tool was .95 (Parks, Carson, & Oliver, 2016). (See Appendix B for letter of permission).

The second instrument used was the *Teacher Sense of Efficacy Scale* (short form) (Parks, Oliver, & Carson, 2016). The purpose of this instrument is to measure the level of efficacy a teacher has regarding aspects of a classroom. The development of the survey tool was born out of a need to measure a key construct that has a large impact on teachers, teaching and students. The work began with the Rand researchers in the 1960's and then was further developed by Gibson and Dembo in the early 1980's (Tschannen-Moran & Woolfolk, 2001). The tool was developed by two researchers and eight graduate students that reviewed and vetted the questions that were being used to determine the measure of teacher efficacy. In addition to the vetting of the content of the survey the construct validity for the short form of the survey was established by conducting a correlation to other tools measuring teacher efficacy (Kerlinger, 1986). This

survey tool consisted of 12 questions and used a nine-point Likert scale which ranged from Nothing to A Great Deal. Responses were as follows: Nothing = 1, A very Little = 3, Some Influence = 5, Quite A Bit = 7, and A Great Deal = 9. The combined possible score on the *TSES* range from 6 to 60 points with 6 being a lowest level of teacher efficacy and 60 being the highest level of teacher efficacy. The measure of internal reliability for the survey was a Cronbach's alpha .90. This instrument is also used to measure the level of teacher efficacy around the correlated factors of: efficacy in student engagement, efficacy in instructional practices, and efficacy in classroom management. For each of the subscales the reported Cronbach's alphas were as follows: student engagement .81, instructional strategies .86, and classroom management .86. The survey takes between 5-10 minutes to complete based on the level of reflection by the individual taking the survey. The *Blended Practice Profile* was combined with the *Teacher Sense of Efficacy Scale* to make one complete online survey. Permission to use the collected data was granted by the owner of the data, Dr. Wendy Oliver (See Appendix B for letter of permission).

Procedures

The researchers sought and secured IRB approval from Liberty University to conduct the research. (See Appendix A) This research used archival data from previous implementations of this self-reporting survey tool. A completion rate of 226 respondents to the survey meet the required numbers (66) for a medium effect size of .7 and an alpha level of $\alpha=.05$ (Gall et al., 2007). The use of the collected data is owned by the developer of the survey instrument Dr. Wendy Oliver. The use of the collected data was requested from Dr. Oliver and permission was received and granted for the purpose of this study (See Appendix B for letter of permission). Participants received an email communication providing directions for the completion of the

survey.

Data Analysis

The data collected in this study was analyzed using a bivariate Pearson correlation, also called Pearson product-moment correlation coefficient or Pearson's r . "The product-moment correlation coefficient (r) is computed when both variables that we wish to correlate are expressed as continuous scores" (Gall, Gall, & Borg, 2006, p. 347). Both descriptive and inferential statistics for the data set were completed and reported. The sample size collected from the archival data is 226, providing a large enough base of responses to meet the required numbers (66) for a medium effect size of .7 and an alpha level of $\alpha=.05$ (Gall et al., 2006). SPSS software will be used to complete the analysis of the data collected.

The analysis of the collected data began with completing descriptive statistics including the mean and standard deviations for each of the variables collected in the archival data. Next, the data was screened to ensure all were complete. Box and whisker plots were completed to identify any data points considered outliers (Gall, Gall, & Borg, 2007). A total of seventeen individual data points were identified as outliers through the box and whiskers plots. These data points were removed from the analysis based on the nominal potential impact on the data set as determined by the original size of the data set more than meeting the required number of data points for analysis

The analysis of the data then utilized histograms to examine the assumption of normality in distribution. With normality of distribution of data established the assumption of linearity, bivariate outliers and bivariate normal distribution was met by using a scatter plot of both the predictor (x) and criterion (y) variables. The results of the scatter plot of the data were examined to determine the display of a "cigar shape" map plot. The "cigar shape" map plot was observed,

and assumption of bivariate outliers and linearity was met.

A Pearson product-moment correlation was conducted to evaluate the relationship between social desirability and teacher efficacy in order to test each of the null hypotheses. A Pearson correlation was used as the statistical tool for this research as it compares the relationship of one continuous variable and a dichotomous variable when examining a sample population (Gall, Gall, & Borg, 2006). A strong relationship can be determined if the resulting data produces an r between -1 and -.08 or .08 and 1 (Warner, 2013). The archival data collected contains 226 responses to the survey which will be used in the research to determine the resulting degrees of freedom (df), the observed r value (r) with a level of significance (p).

In order to adjust for the data analysis running three correlations and the possibility of Type I errors occurring, a Bonferroni correction was completed. A Bonferroni correction is used to adjust the p value when multiple statistical tests are being performed simultaneously on a single data set. For this research, the calculation for the Bonferroni correction began with an alpha of 0.05, was then divided by the number of comparisons 3 or $P=0.05/3$. The result of running this correction meant that the alpha level will be lowered to a $p < .0167$. If data analysis provides a statistically significant effect a post hoc analysis will be completed (Warner, 2013).

CHAPTER FOUR: FINDINGS

Overview

This study examined a possible correlation between social desirability for the implementation of blended learning instruction and teacher efficacy. The predictor variable was the self-reported level of social desirability for blended learning instruction. The criterion variable was the reported level of teacher efficacy with the addition of a comprehensive view on the subscales of instructional strategies and student engagement.

This chapter begins with a review of the research question that navigates this study, followed by the three null hypotheses associated with that question. The descriptive statistics are presented first followed by results of the data analyses.

Research Question

RQ1: Is there a relationship in the reporting of social desirability for blended learning instruction and teacher efficacy in secondary teachers?

Null Hypothesis

H₀1: There is no significant correlation between social desirability for the implementation of blended learning instruction as measured by *Blended Practice Profile* and teacher efficacy as measured by the *Teacher Sense of Efficacy Scale* for blended instruction in secondary teachers.

H₀2: There is no significant correlation between social desirability for the implementation of blended learning instruction as measured by *Blended Practice Profile* and teacher efficacy as measured by the *Teacher Sense of Efficacy Scale* on the subscale of instructional strategies in secondary teachers.

H₀3: There is no significant correlation between social desirability for the

implementation of blended learning instruction as measured by *Blended Practice Profile* and teacher efficacy as measured by the *Teacher Sense of Efficacy Scale* on the subscale of student engagement in secondary teachers.

Descriptive Statistics

Descriptive statistics, including the means and standard deviations, were calculated for all reported variables. Results are presented in Table 1. When reporting on continuous variables, means and standard deviations are the appropriate descriptive statistics to report (Ritchey, 2008). The descriptive statistics were completed for both the *Blended Practice Profile* and for the *Teacher Sense of Efficacy Scale*. Additional descriptive statistics were completed on the subscales of instructional strategies and student engagement contained in the *Teacher Sense of Efficacy Scale* as these subscales are used in correlations in the study.

Table 1: Means and Standard Deviations

Means and Standard Deviations

Descriptive Statistics

	Mean	Std. Deviation	N
Blended Practice Profile Survey	309.3574	74.42464	226
Teacher Sense of Efficacy Scale	92.7124	10.26414	226
Teacher Sense of Efficacy Scale – Instructional Strategies Subscale	29.0000	4.70555	226
Teacher Sense of Efficacy Scale – Student Engagement Subscale	31.7168	3.73207	226

Results

Data Screening

Data screening was completed to examining possible outliers and missing data points for both the predictor and criterion variables for all three-null hypotheses. Box and whiskers plots provided visual data and identified outliers. (Green and Salkind, 2014). No individuals were removed from the data set due to missing information. The online survey system would not allow the individual to move through the survey with incomplete information. A total of seventeen individual data points were identified as outliers through the box and whiskers plots. This data points were removed from the analysis based on the nominal potential impact on the data set based on the original size of the data set more than meeting the required number of data points for analysis. The box and whisker plots are shown in figures 1-4.

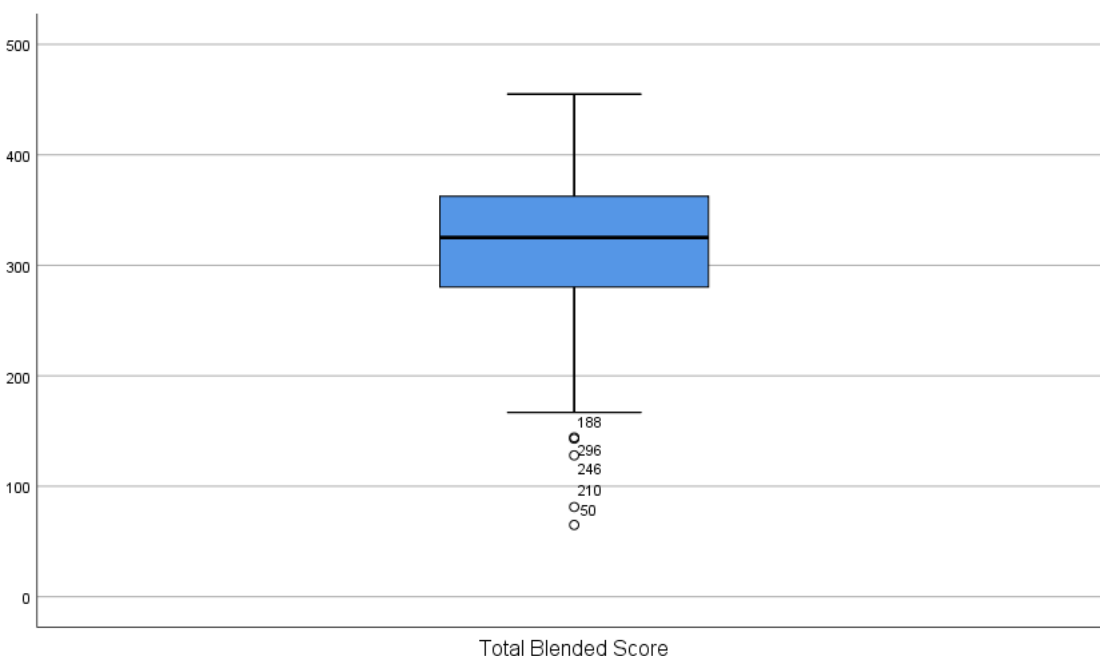


Figure 1. Box and Whiskers for Blended Practice Profile.

Figure 1 shows 5 outliers (50, 188, 210, 246, and 296) for *Blended Practice Profile* survey tool.

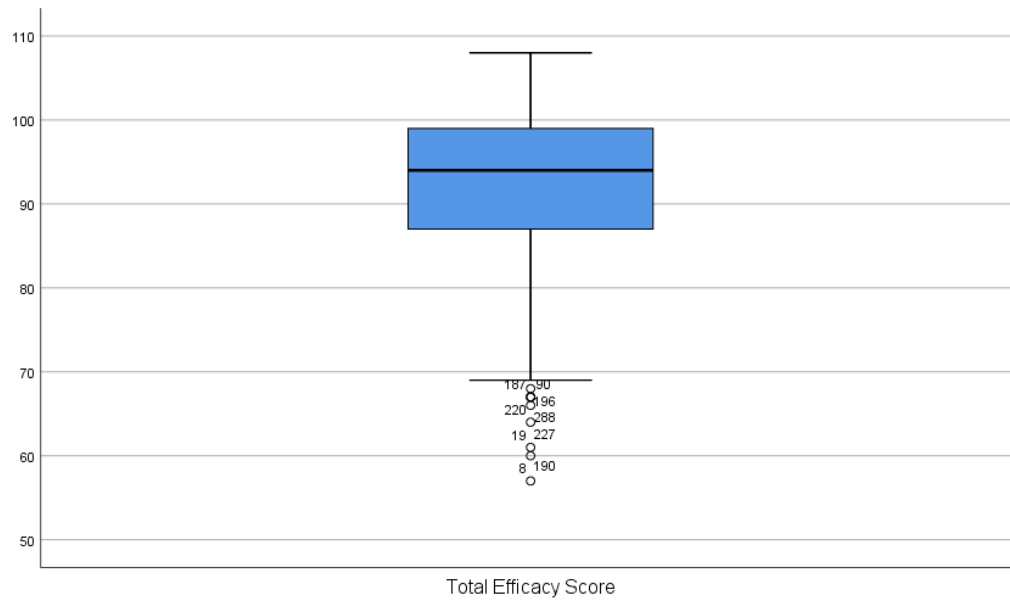


Figure 2. Box and Whiskers for Teacher Sense of Efficacy Scale.

Figure 2 shows 9 outliers (8, 19, 90, 187, 190, 196, 220, 227, 288) the total Teacher Sense of Efficacy Scale.

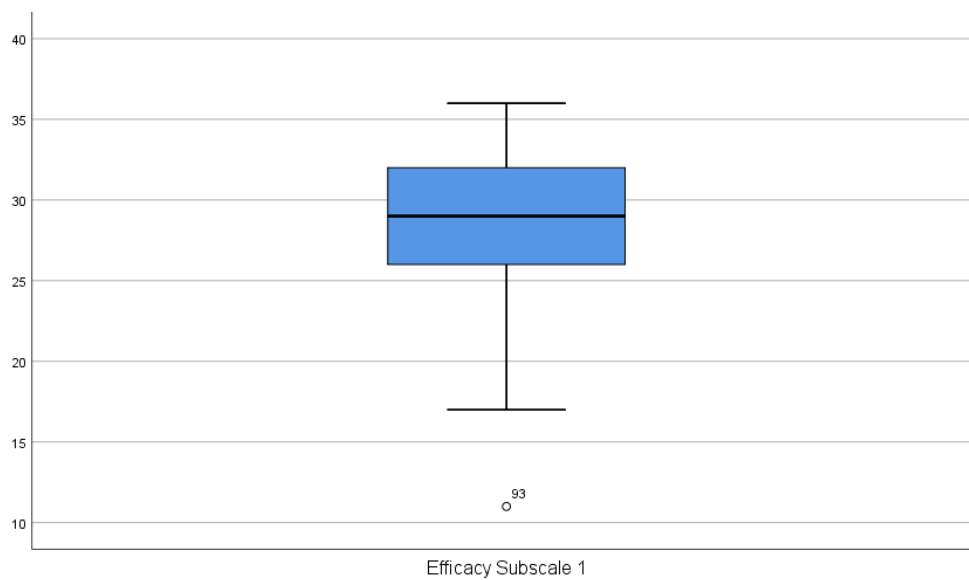


Figure 3. Box and Whiskers for Teacher Sense of Efficacy Scale - Subscale of Instructional Strategies.

Figure 3 shows 1 outlier (93) for Teacher Sense of Efficacy Scale on subscale of instructional strategies.

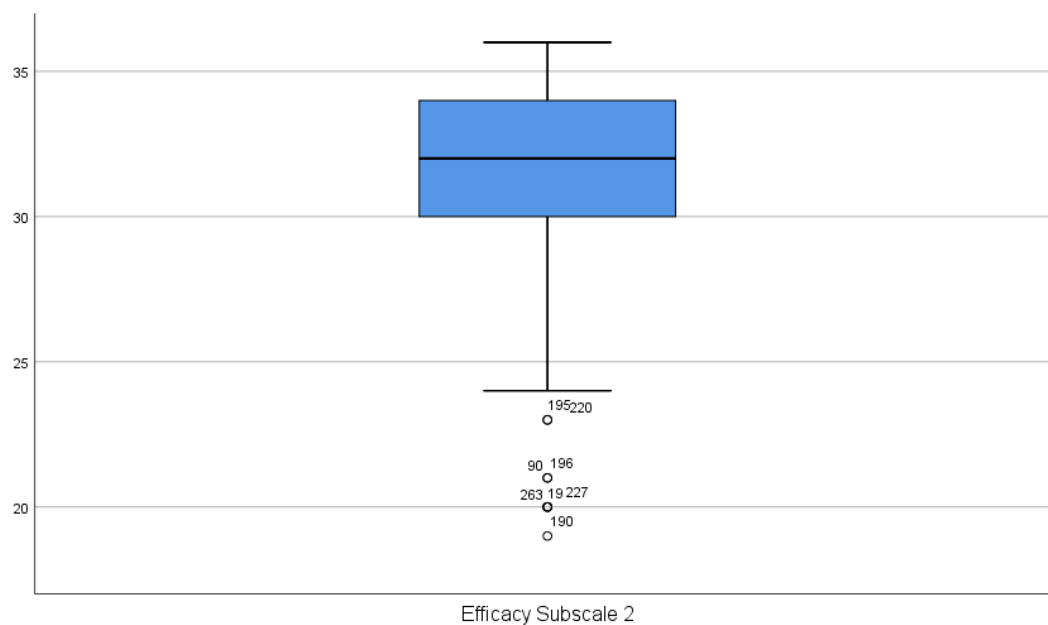


Figure 4. Box and Whiskers for Teacher Sense of Efficacy Scale - Subscale of Student Engagement.

Figure 4 shows 8 outliers (19, 90, 190, 195, 196, 220, 227, 263) for the Teacher Sense of Efficacy Survey subscale of student engagement.

Assumption Tests

The assumption of normality was examined using histograms for the all variables. A histogram was completed for each data set to investigate the normality of distribution of the data set variables and after completing a review of each histogram the researcher determined to complete the analysis using the Pearson r . Analysis of the all histograms provided visual representation of nearly normal distributions for all variables.

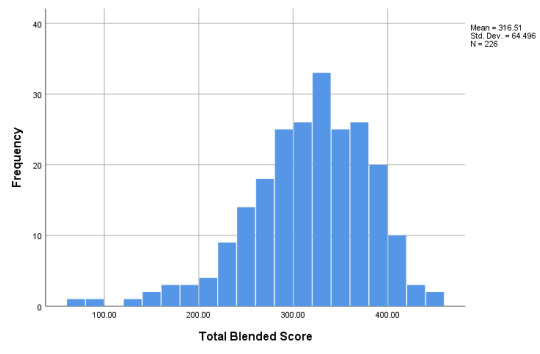


Figure 5. Histogram for Blended Practice Profile Survey.

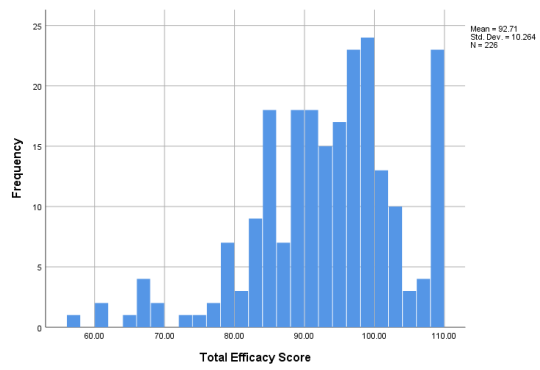


Figure 6. Histogram for Teacher Sense of Efficacy Scale.

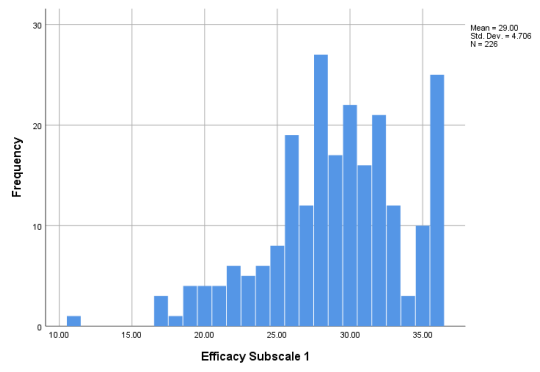


Figure 7. Histogram for Teacher Sense of Efficacy Scale - Subscale of Instructional Strategies.

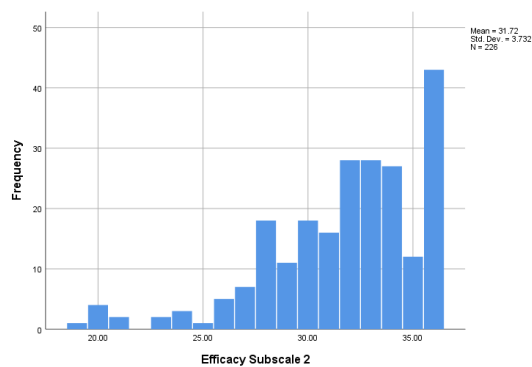


Figure 8. Histogram for Teacher Sense of Efficacy Scale - Subscale of Student Engagement.

The assumptions of linearity, bivariate normal distribution and bivariate outliers were examined using scatter plots (Warner 2013, 267-270). Scatter plots were completed for each of the identified correlations. Visual inspection of the scatter plots for each correlation identified a small number of bivariate outliers; however the shape of the scatterplots represented a “cigar shape” output indicating that the assumptions of linearity and bivariate normal distribution were tenable. See Figures 9-11 for the scatter plot of *Blended Practice Profile* and *Teacher Sense of Efficacy Scale* utilizing the subscale of instructional strategies.

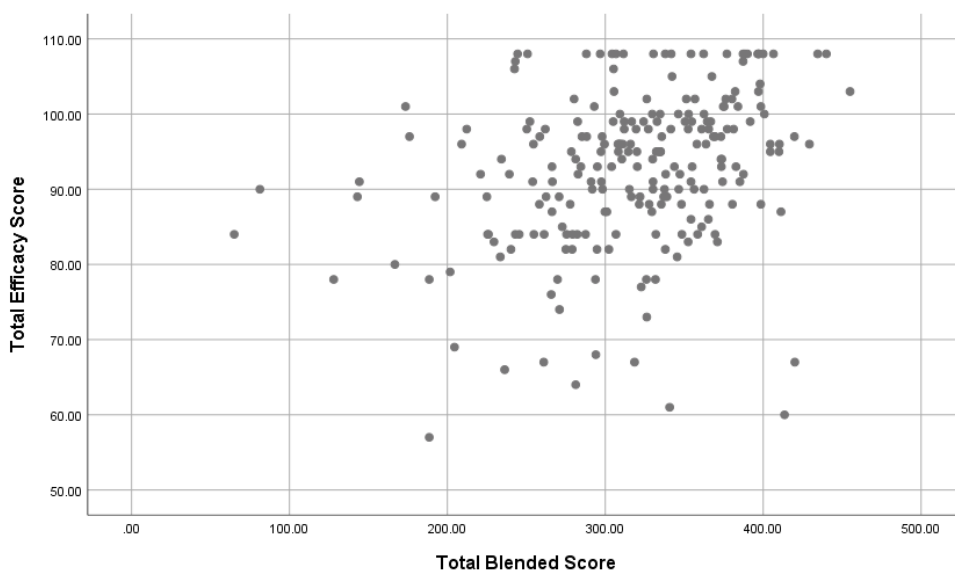


Figure 9. Scatter plot for Blended Practice Profile Survey and Teacher Sense Efficacy Scale.

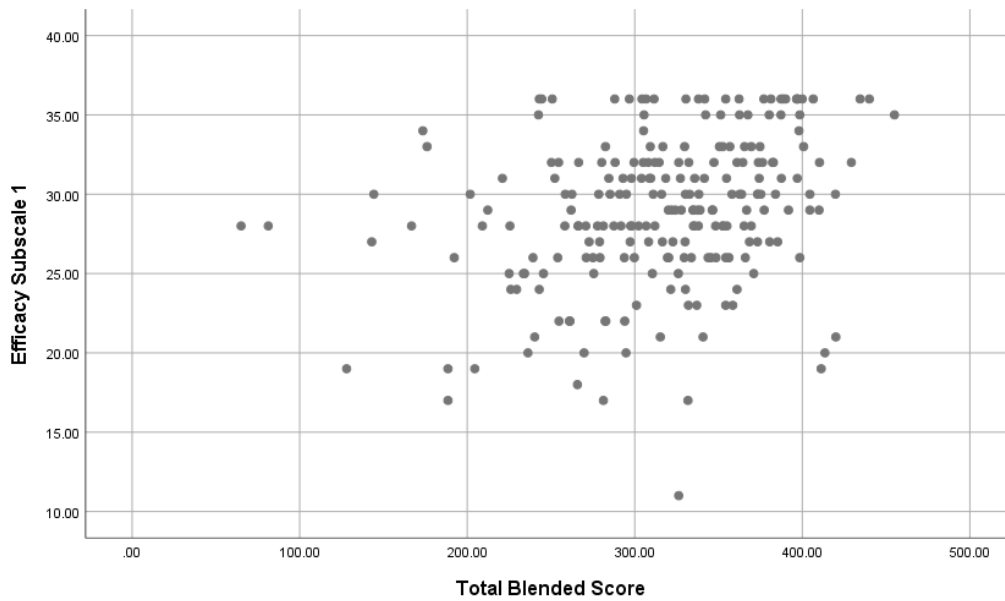


Figure 10. Scatter plot for Blended Practice Profile Survey and Teacher Sense of Efficacy Scale
- Subscale of Instructional Strategies.

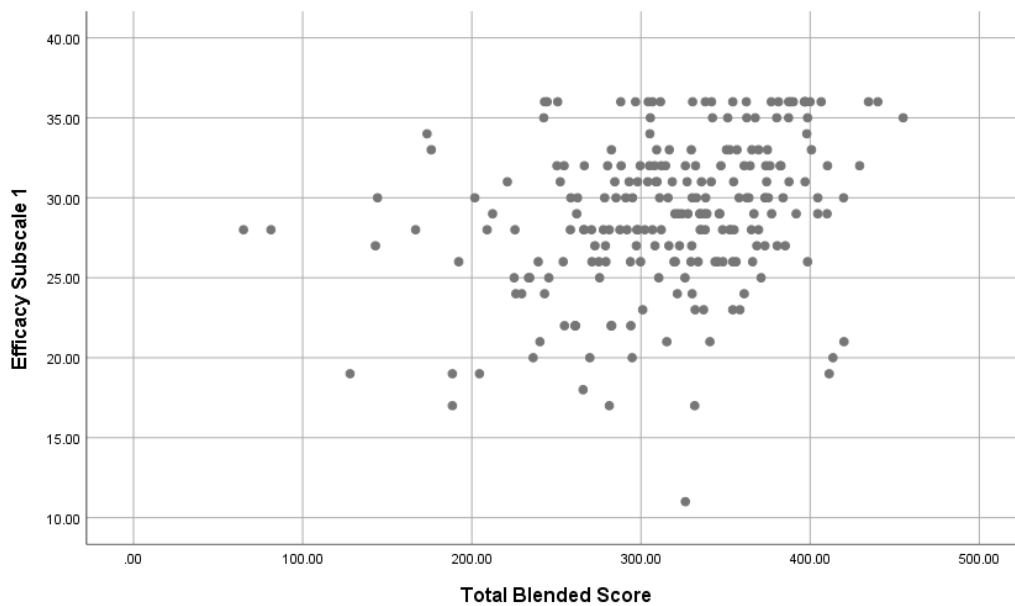


Figure 11. Scatter plot for Blended Practice Profile Survey and Teacher Sense Efficacy Scale -
Subscale of Student Engagement.

Hypothesis

Null Hypothesis One

For null hypothesis one, the researcher examined relationships of social desirability for blended instruction as measured by the *Blended Practice Profile* and teacher efficacy as measured by the *Teacher Sense of Efficacy Scale*. The researcher did find a statistically significant relationship between social desirability for blended instruction and teacher efficacy. The researcher rejects the null $r(226) = .385, p < .000$. Overall there was a weak correlation approaching mild between social desirability for blended instruction and teacher efficacy. See Table 2 for Pearson r correlations.

Null Hypothesis Two

For null hypothesis two, the researcher examined relationships of social desirability for blended instruction as measured by the *Blended Practice Profile* and teacher efficacy as measured by the *Teacher Sense of Efficacy Scale* utilizing the subscale of *Instructional Strategies*. The researcher did find a statistically significant relationship between social desirability for blended instruction and teacher efficacy for instructional strategies. The researcher rejects the null $r(226) = .297, p < .000$. Overall there was a weak correlation approaching mild between social desirability for blended instruction and teacher efficacy related to instructional strategies. See Table 2 for Pearson r correlations.

Null Hypothesis Three

For null hypothesis three, the researcher examined relationships of social desirability for blended instruction as measured by the *Blended Practice Profile* and teacher efficacy as measured by the *Teacher Sense of Efficacy Survey* utilizing the subscale of *student engagement*. The researcher did find a statistically significant relationship between social desirability for

blended instruction and teacher efficacy for student engagement. The researcher rejects the null $r(226) = .344, p < .000$. Overall there was a weak correlation approaching mild between social desirability for blended instruction and teacher efficacy related to student engagement. See Table 2 for Pearson r correlations.

Table 2. Pearson r Correlations

		Correlations			
		Blended Practice Profile			
		Survey	(TETS)	(TETS-IS)	(TETS-SE)
Blended Practice Profile Survey	Pearson Correlation	1	.325**	.297**	.344**
	Sig. (2-tailed)		.000	.000	.000
	N	226	226	226	226
Teacher Sense of Efficacy Scale (TETS)	Pearson Correlation	.325**	1	.837**	.832**
	Sig. (2-tailed)	.000		.000	.000
	N	226	226	226	226
Teacher Sense of Efficacy Scale – Instructional Strategies Subscale (TETS-IS)	Pearson Correlation	.297**	.837**	1	.514**
	Sig. (2-tailed)	.000	.000		.000
	N	226	226	226	226
Teacher Sense of Efficacy Scale – Student Engagement Subscale (TETS-SE)	Pearson Correlation	.344**	.832**	.514**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	226	226	226	226

CHAPTER FIVE: CONCLUSIONS

Overview

This chapter begins with a review of the research and the statistical analysis that will be used to calculate for findings in this study. Results are presented through the lens of Projection Theory and Social Cognitive Theory and prior research discussed in the literature review. After discussing results and implications, and limitations of the study, this chapter concludes with recommendations for future research.

Discussion

The purpose of this correlational study was to examine the relationship between social desirability and teacher efficacy for the implementation and successful adoption of blended learning instruction by secondary teachers in the United States. Blended learning instruction is defined as an instructional strategy that leverages technology and face-to-face instruction working in concert with each other to raise the level of student engagement and learning (Graham, Woodfield, & Harrison, 2013). According to the 2013 annual review of policy and practice for online and blended learning in the K-12 setting, schools in 24 states as well as the District of Columbia, were using a blended instructional approach (Watson, Murin, Vashaw, Gemin, & Rapp, 2013) with variable outcomes. This study utilized the *Blended Practice Profile* Survey to determine the level of social desirability for blended learning instruction and the *Teacher Sense of Efficacy Scale* to determine the reported level of efficacy including the subscales of Instructional Strategies and Student Engagement. The data collected in this study was analyzed using a bivariate Pearson correlation, also called Pearson product-moment correlation coefficient or Pearson's r . "The product-moment correlation coefficient (r) is

computed when both variables that we wish to correlate are expressed as continuous scores” (Gall, Gall, & Borg, 2006, p. 347).

Null Hypothesis One

The first null hypothesis states: There is no significant correlation between social desirability for the implementation of blended learning instruction as measured by *Blended Practice Profile* and teacher efficacy as measured by the *Teacher Sense of Efficacy Scale* for blended instruction in secondary teachers.

Mahmoe and Pirkamali (2013) found a consistent linkage between self-efficacy of the individual and the resulting teacher behavior and student achievement. This consistently demonstrated connection as it related to the education field provided a firm foundation to examine other variables to determine if a correlation could be established. Social desirability while being the subject of much research has focused on bias, but has expanded to examine social desirability and consensus as motivation for change. Zemore (2012) found individuals identifying with a socially desirable construct tend to immerse themselves more deeply in the social setting around the identified construct, allowing for motivation to change that impacts the individual. Zemore’s investigation into the role of social desirability was related to the cessation of smoking and the motivational role for change.

The results from this study show that there is a statistically significant correlation between the variables of social desirability, blended learning instruction, and teacher efficacy. The strength of the correlation between social desirability for blended instruction and teacher efficacy are considered weak approaching mild with a Pearson correlation where $r = .325$. Little research has been completed into the impact of social desirability as a potential factor influencing behavior change. However, the correlation supports the research of Zemore (2012)

when examining social desirability as an impact for behavioral change. In the area of self and teacher efficacy, the correlation supports the research Mahmoe and Pirkamali (2013) as it relates self-efficacy and behavioral change.

When examining previous research for social or group impact this correlation supports the research of Vancouver, Gullekson, Morse, and Warren (2014). Their work demonstrated that self-efficacy can be observed in between-person interactions as well as within the individual. Additionally, the research of Angelle and Teague (2014) found that shared social learning can build collective efficacy in a group experiencing a modeled skill or behavior.

Null Hypothesis Two

The second null hypothesis stated: There is no significant correlation between social desirability for the implementation of blended learning instruction as measured by *Blended Practice Profile* and teacher efficacy as measured by the *Teacher Sense of Efficacy Scale* on the subscale of instructional strategies in secondary teachers.

Blended learning instruction requires teachers to implement tools (technology) and pedagogy that is outside the support of the school or the professional training of the teacher. Instructional strategies vary due to the nature of implementing technology as part of the instruction. Access to reliable technology and the complexity of the technology tools, are external factors which must be addressed for a successful blended learning initiative (Reid, 2014). Celik and Yesilyurt (2013) perceived technology efficacy as reported by the teacher could explain the attitudes of teachers applying technology to instructional practices within his classroom.

The reported strengths of the correlations when examining the subscale of instructional strategies on the *Teacher Sense of Efficacy Scale* are considered weak approaching mild. The

correlation reported here is the weakest of the three correlations reported in the research with a Pearson correlation where $r = .297$. The data from this correlation provides context for the understanding that the digital and technological features of the implementation and successful adoption of blended learning instruction are only one portion of a successful move to the blended learning environment; other pedagogical considerations must be addressed in the process (Benson & Kolsaker, 2015).

Null Hypothesis Three

The third null hypothesis states: There is no significant correlation between social desirability for the implementation of blended learning instruction as measured by *Blended Practice Profile* and teacher efficacy as measured by the *Teacher Sense of Efficacy Scale* on the subscale of student engagement in secondary teachers.

Blended learning instruction is defined as an instructional strategy that leverages technology and face-to-face instruction working in concert with each other to raise the level of student engagement and learning (Graham, Woodfield, & Harrison, 2013). Horn and Staker (2015) advocate that if the blended learning environment provides the individual student control over some aspect of the time, place, path and pace of the instruction, then content engagement will rise.

The reported strength of the correlation when examining the subscale of student engagement on the *Teacher Sense of Efficacy Scale* is considered weak approaching mild. The correlation reported here is the strongest of the three correlations reported in the research with a Pearson correlation where $r = .344$. The data support the research of Deschacht and Goeman (2013) who found that the total proportion of students completing the coursework was slightly larger with the implementation of the blended instructional model. The data also supports the

research of Smith (2013) who found students placed in blended versus traditional instruction indicated that the perceived level of learning by the students was higher in the blended learning implementation (Smith, 2013).

Conclusions

The constructs of social desirability as researched by Zemore (2012) and teacher efficacy based on the research of Mahmood and Pirkamali (2013) led the researcher to believe that there was relationship between constructs of social desirability and teacher efficacy that had not been collectively investigated in their area of educational research. After concluding the research on the a large set of archival data the resulting correlation validates the findings from a focus group of middle school teachers where feedback indicated teachers felt the blended pedagogical approach to instruction was the most socially desirable instructional practice (Michigan Virtual Learning Research Institute, 2016).

The findings presented here inform our understanding of the role of social desirability and teacher efficacy in the behavioral and cognitive change to support the implementation of an effective blended learning environment. This, in turn, supports Zemore's (2012) finding that individuals identifying with a socially desirable construct tend to immerse themselves more deeply in the social setting around the identified construct, allowing for motivation to change to impact the individual. The research extends Zemore's into the classroom and schools as we identify the relationship between social desirability, motivation, and belief for change in pedagogy and classroom environments.

In an organizational setting, one of the largest contributing factors to initiating a change in behavior is job satisfaction on behalf of not only the individual, but also the institution (Iljins, Skvarciany, & Gaile-Sarkane, 2015). Pressure from the school administration to change

instructional practice is far less effective than a teacher's willingness to change and a desire to be part of a positive change in practice. Also, the belief that he or she can be successful in implementing blended learning is necessary for change (Michigan Virtual Learning Research Institute, 2016). The desire of teachers to implement instructional practices that enhance student engagement and achievement is demonstrated in the literature.

This current study adds to the literature that has examined the impact of a positive support environment and teacher efficacy. Goddard, Goddard, Kim, and Miller (2015) have shown that the instructional leadership in a school is a positive predictor of the efficacy beliefs of the group. Chen, Li and Leung (2016) also found that the impact of positive supervisor support to demonstrate that the positive support had a direct impact on the reported levels of general-efficacy of individuals in the organization. With the impact of school leadership established Parks, Oliver, and Carson (2016) found despite support from school leadership, teachers were not sure how to implement these instructional strategies in their daily practices. Graham et al. (2013) highlights the need for setting expectations, measures, common language, and definitions of the type of program being implemented. Hinrichsen and Combs (2013) found that simply identifying instruction as blended learning instruction does not produce unified understanding of the instructional practice and the process of implementation.

Implications

Several driving factors are causing the shift to blended learning instruction as an educational option such as the growing population, rising enrollments, scarcity of space, and economic impact (Baepler, Walker, & Driessen, 2014). These factors are placing an increasing emphasis and pressure to change instructional strategies in the classroom that could positively impact student engagement and achievement. It is important to identify and understand all

possible factors that influence the behavioral change process. The results of this research of a statistically significant relationship for social desirability for blended learning instruction and teacher efficacy, provide insight into the behavioral change process. The implications in this study with regards to social desirability agree with Zemore (2012) who found individuals identifying with a socially desirable construct tend to immerse themselves more deeply in the social setting around the identified construct, allowing for motivation to change which impacts the individual.

The level of self-efficacy has been traditionally examined as a within-person phenomenon. Research has demonstrated that self-efficacy can be seen in between-person results (Vancouver, Gullekson, Morse, & Warren, 2014). The setting for all individuals in this study was a school setting which by the nature of the shared responsibilities of the school community represents a social setting. Angelle and Teague (2014) found collective willingness and shared learning can build collective efficacy in a group experiencing a modeled skill. The implications of this study draw together the construct of social desirability and building of social consensus for change as potential influence on the collective efficacy for change. By only focusing on the teacher efficacy for implementation and fidelity to blended learning the district or school are potentially missing an opportunity for larger scale impact. The social aspect of a district and school provides a fertile ground for the impact of social desirability on the development of consensus. With consensus taking root in the social setting there is a greater opportunity for teachers and schools to support each other in a desirable change effort. Schools and districts need to expand on any potential leverage for change that will impact student engagement and achievement.

Change in instructional practices will occur in classrooms, schools, and districts as standards and practices shift to meet the ever-changing needs of governments, cities, school districts, teachers, and classroom environments. As a result of professional development, research articles, and coverage in the educational technology press, there is now a convergent body of evidence that blended instruction in the K-12 setting has become a socially desirable construct (Watson, Pape, Murin, Germin, & Vashaw, 2014). The implication of the research is that a combination of understanding and leveraging the role of social desirability and teacher efficacy in the change process could produce higher results in fidelity of effective implementation of blended learning.

Limitations

When examining the following three main components of this research, social desirability, teacher efficacy and blended learning, two components, social desirability and blended learning, may limit the generalizability of findings. To examine social desirability, we utilized self-report data and in doing so, we may have introduced bias. In regard to the examination of blended learning, we encountered many variant definitions and levels of implementation.

Social desirability is defined as the tendency of an individual to respond in a manner that is perceived to be overtly positive (Crowne & Marlowe, 1964). This understanding of the construct of social desirability has led to examining the role of the construct with regard to bias. Social desirability bias as an extension of social desirability construct shows some individuals will respond to questions or prompts in a manner they believe to be the desirable choice instead of their true feelings about the topic (Brenner & DeLamater, 2014). The representation becomes that teachers may be reporting the level of social desirability with a more negative connotation of

bias in reporting. When utilizing a self-reporting survey, it could produce a higher level of bias (Tracey, 2016) potentially begins the process of consensus effect. The limitations of this study reside in the understanding that little research has been conducted on the role of social consensus as a positive motivator for change. Zemore (2012) examined the force of social desirability in the change of personal behavior, but the findings were not examined in an educational setting and collective change was not considered.

The second component that develops as a limitation of this study is blended learning. While schools are adopting the terminology and the belief that blended learning instruction is a part of their schools or district the wide the limitation lines in the understanding of the definition and observation of the practice. Graham, Woodfield, and Harrison (2013) nebulous definitions of blended learning instruction may add to the belief that schools and teachers are implementing blended learning instruction. Although the *Blended Practice Profile* provides concrete examples of activities that are associated with blended learning it does not speak to the fidelity of the implementation. Hinrichsen and Coombs (2013) highlighted the process of simply identifying instruction as blended learning instruction does not produce a convergent understanding of the instructional practice. Without a clear understanding of both theory and practice of blended instruction, identification and implementation of the instructional practice will serve as a limitation to this study. The data for this research was gathered from several districts throughout the United States who were in the process of implementing blended learning instructional practices into schools and classrooms. Thus, the findings for this study can not be generalized beyond the population that was studied.

Recommendations for Future Research

1. Schools and teachers should be surveyed to determine their operational definitions of blended learning instruction and environments.
2. Further research should be conducted on the motivation to change instructional pedagogy in classrooms and homes.
3. Further research could be conducted on the implementation of blended learning from the lens of student engagement and student efficacy.
4. Qualitative studies to investigate blended learning instruction from the lens of teachers and students.
5. Utilize the correlations already completed in the *Blended Practice Profile* survey and *Teacher Sense of Efficacy Scale* subscale of Classroom Management to examine those implications.
6. Utilizing the correlations already completed, the domains contained within the *Blended Practice Profile* survey and *Teacher Sense of Efficacy Scale* could be examined for additional study implications.
7. Additional studies could be completed utilizing the *Blended Practice Profile* and *Teacher Sense of Efficacy Scale* while examining the level of support and coaching provided for the instructional change.

REFERENCES

- Ahangari, S., Hejazi, M., & Razmjou, L. (2014). The impact of scaffolding on content retention on Iranian post-elementary efl learners' summary writing. *Procedia - Social and Behavioral Sciences*, 98, 83-89.
- Alloy, L. B., & Tabachnik, N. (1984). Assessment of covariation by humans and animals: The joint influence of prior expectations and current situational information. *Psychological Review*, 91(1), 112-149.
- Angelle, P., & Teague, G. (2014). Teacher leadership and collective efficacy: Teacher perceptions in three US school districts. *Journal of Educational Administration*, 52(6), 738-753.
- Baepler, P., Walker, J. D., & Driessen, M. (2014). It's not about seat time: Blending, flipping and efficiency in active learning classrooms. *Computers & Education*, 78, 227-236.
- Baldwin, T. T. (1992). Effects of alternative modeling strategies on outcomes of interpersonal-skills training. *Journal of Applied Psychology*, 77(2), 147-154.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37(2), pp. 122-147.
- Bandura, A. (1986a). Guide for constructing self-efficacy scales. In F. Pajares, & T. Urdan, *Self-efficacy beliefs of adolescents* (Vol. 5, pp. 307-337). Greenwich, CT: Information Age Publishing.
- Bandura, A. (1986b). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1989a). Human agency in social cognitive theory. *American Psychologist*, 44, 1175-1184.

- Bandura, A. (1989b). Social Cognitive Theory. In R. Vasta, *Annals of Child Development* (pp. 1-60). Greenwich, CT: Jai Press LTD.
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Humna Decision Processes*, 50, 248-287.
- Bandura, A. (1997). *Self-efficacy: The exercise in control*. New York, NY: Freeman.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52(1), 1-26.
- Bandura, A. (2004). Health promotion by social cognitive means. *Health Edcuation and Behavior*, 31, 143-164.
- Bannister, D., & Fransella, F. (1986). *Inquiring man: The psychology of personal constructs*. New York, N.Y.: Routledge.
- Bateman, C. R., Valentine, S., & Rittenburg, T. (2013). Ethical decision making in a peer-to-peer file sharing situation: The role of moral absolutes and social consensus. *Journal of Buiness Ethics*, 115, 229-240.
- Bensch, D., Paulhus, D. L., Stankov, L., & Ziegler, M. (2017). Teasing aprat overclaiming, overconfidence, and socially desirable responding. *Assessment*, 1-12.
- Benson, V., & Kolsaker, A. (2015). Instructor approaches to blended learning: A tale of two buisness schools. *The International Jornal of Management Edcuation*, 13, 316-325.
- Bramel, D. (1962). A dissonance theory approach to defensive projection. *Journal of Abnormal and Social Psychology*, 64, 121-129.
- Brenner, P. S., & DeLamater, J. D. (2014). Social desirability bias in self-reports of physical activity: Is an exercise identity the culprit. *Social Indicators Research*, 117(2), 489-504.

- Brown, M. G. (2016). Blended instructional practice: A review of the empirical literature on instructors' adoption and use of online tools in face-to-face teaching. *Internet and Higher Education, 31*, 1-10.
- Buchan, J. (2014). Adopt or adapt? The rhetoric and reality of the diffusion of innovation in changing , technology-enhanced learning environments. *31st Annual Conference of the Australasian Society for Computers in Learning in Tertiary Education* (pp. 99-109). Dunedin: Ascilite.
- Burke, W. W. (2017). *Organization Change: Theory & Practice*. Washington, DC: Sage.
- Cable, D. M., & DuRue, D. S. (2002). The convergent and discriminant validity of subjective fit projections. *Journal of Applied Psychology, 87*, 875-884.
- Caprara, G., Vecchinone, M., Barbaranelli, C., & Alessandri, G. (2013). Emotional stability and affective self-regulatory efficacy beliefs: Proofs of integration between trait theory and social cognitive theory. *European Journal of Personality, 145-154*.
- Celik, V., & Yesilyurt, E. (2013). Attitudes to technology, perceived computer self-efficacy and computer anxiety as predictors of computer supported education. *Computer & Education, 60*, 148-158.
- Chalus, G. A. (1978). The mechanisms underlying attributive projection. *Journal of Personality, 46*(2), 362-382.
- Chen, T., Li, F., & Leung, K. (2016). When does supervisor support encourage innovative behavior? Opposite moderating effects of general self-efficacy and internal locus of control. *Personnel Psychology, 69*, 123-158.
- Cherian, J., & Jacob, J. (2013). Impact of self efficacy on motivation and performance of employees. *International Journal of Business and Management, 8*(14), 80-88.

- Chiu, C.-M., Hsu, M.-H., & Wang, E. T. (2006). Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. *Decision Support Systems*, 1872-1888.
- Cho, J. C., & Knowles, E. D. (2013). I'm like you and you're like me: Social projection and self-stereotyping both help explain self-other correspondence. *Journal of Personality and Social Psychology*, 104(3), 444-456.
- Christensen, C., Horn, M., & Johnson, C. W. (2011). *Disrupting classes: How disruptive innovation will change the way the world learns*. New York, NY: McGraw Hill.
- Christenson, C. M., Horn, M. B., & Staker, H. (2013). *Is k-12 blended learning disruptive? An introduction to the theory of hybrids*. Lexington: Clayton Christensen Institute.
- Clifford, S., & Jerit, J. (2015). Do attempts to improve respondent attention increase social desirability bias? *Public Opinion Quarterly*, 79(3), 790-802.
- Coleman, J. S. (1990). *Foundations of social theory*. Cambridge, MA: Harvard University Press.
- Crowe, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24(4), 349-354.
- Crowne, D. P., & Marlowe, D. (1964). *The approval motive*. New York, NY: Wiley & Sons.
- Davis, K., Wright, S. C., Aron, A., & Comeau, J. (2013). Intergroup contact through friendship: Intimacy and norms. In G. Hodson, & M. Hewstone, *Advances in intergroup contact* (pp. 221-229). New York, NY: Psychology Press.
- de Vries, R. E., Zettler, I., & Hilbig, B. E. (2014). Rethinking trait conceptions of social desirability scales: Impression management as an expression of honesty-humility. *Assessment*, 21(3), 286-299.

- Densten, I. L., & Sarros, J. C. (2012). The impact of organizational culture and social desirability on Australian CEO leadership. *Leadership & Organizational Development Journal*, 33(4), 342-368.
- Deschacht, N., & Goeman, K. (2015). The effect of blended learning on course persistence and performance of adult learners: A difference-in-difference analysis. *Computers & Education*, 87(83-89).
- Dixon, F. A., Yssel, N., McConnell, J. M., & Hardin, T. (2014). Differentiated Instruction, professional development and teacher efficacy. *Journal for the Education of the Gifted*, 37(2), 111-127.
- DoDou, D., & de Winter, J. C. (2014). Social desirability is the same in offline, online and paper surveys: A meta-analysis. *Computers in Human Behavior*, 36, 487-495.
- Doyle, C., Sreenivasan, S., Szymanski, B. K., & Korniss, G. (2016). Social consensus and tipping points with opinion inertia. *Physica A*, 443, 316-323.
- Dys-Steenbergen, O., Wright, S. C., & Aron, A. (2016). Self-expansion motivation improves cross-group interactions and enhances self-growth. *Group Processes & Intergroup Relations*, 19(1), 60-71.
- Edwards, A. L. (1957). *The social desirability variable in personality assessment and research*. New York, NY: Holt, Rinehart and Winston.
- El Kadri, M. S., Roth, W.-M., Gil, A. J., & Mateus, E. (2017). Towards a more symmetrical approach to the zone of proximal development in teacher education. *Revista Brasileira de Educacao*, 22(70), 668-689.

- Ellingson, J. E., Smith, D. B., & Sackett, P. R. (2001). Investigating the influence of social desirability on personality factor structure. *Journal of Applied Psychology, 86*(1), 122-133.
- Erwin, P. G. (1994). Effectiveness of social skills training with children: A meta-analytic study. *Counselling Psychology Quarterly, 7*(3), 305-310.
- Freud, S. (1956). Instincts and their vicissitudes. In S. Freud, *Collected Papers of Sigmund Freud* (Vol. 1). London: Hogarth Press.
- Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction* (8th Edition ed.). Boston: Pearson.
- Giles, R. M., & Kent, A. M. (2016). An investigation of preservice teachers' self-efficacy for teaching with technology. *Asian Education Studies, 1*, 32-40.
- Gladwell, M. (2002). *The tipping point: How little things can make a big difference*. New York, NY: Little, Brown and Company.
- Goddard, R., Goddard, Y., Kim, E. S., & Miller, R. (2015). The theoretical and empirical analysis of the roles of instructional leadership, teacher collaboration, and collective efficacy beliefs in support of student learning. *American Journal of Education, 121*, 501-530.
- Goldings, H. J. (1954). On the avowal and projections of happiness. *Journal of Personality, 23*(1), 30-47.
- Graham, C. R. (2013). Emerging practice and research in blended learning. In C. R. Graham, *Handbook of distance education* (pp. 333-350). New York, NY: Routledge.

- Graham, C. R., Woodfield, W., & Harrison, J. B. (2013). A framework for institutional adoption and implementation of blended learning in higher education. *Internet and Higher Education, 18*, 4-14.
- Gredler, M. (2012). Understanding Vygotsky for the classroom: Is it too late? *Educational Psychology Review, 24*(1), 113-131.
- Green, S. B., & Salkind, N. J. (2014). *Using SPSS for Windows and Macintosh: Analyzing and understanding data* (7th ed.) Upper Saddle River, NJ: Prentice Hall
- Guazzini, A., Yoneki, E., & Gronchi, G. (2015). Cognitive dissonance and social influence effects on preference judgments: An eye tracking based system for their automatic assessment. *International Journal of Human-Computer Studies, 73*, 12-18.
- Haberecht, K., Schnuerer, I., Gaertner, B., John, U., & Freyer-Adam, J. (2015). The stability of social desirability: A latent change analysis. *Journal of Personality, 83*(4), 404-412.
- Hannah, S. T., Peng, A. C., & Schaubroeck, J. M. (2015). Transforming followers' value internalization and role self-efficacy: Dual processes promoting performance and peer norm-enforcement. *Journal of Applied Psychology, 101*(2), 252-266.
- Harmon-Jones, E., Harmon-Jones, C., & Levy, N. (2015). An action-based model of cognitive dissonance processes. *Current Directions in Psychological Science, 24*(3), 184-189.
- Hasking, P., Boyes, M., & Mullan, B. (2015). Reward and cognition: Integrating reinforcement sensitivity theory and social cognitive theory to predict drinking behavior. *Substance Use & Misuse, 50*, 1316-1324.
- Hayes, J. (2014). *The theory and practice of change management*. New York, NY: Palgrave Macmillan.

- Helmes, E., & Holden, R. R. (2003). The construct of social desirability: One or two dimensions? *Personality and Individual Differences, 34*, 1015-1023.
- Henderson, M., Selwyn, N., & Aston, R. (2017). What works and why? Student perceptions of "useful" digital technology in university teaching and learning. *Studies in Higher Education, 42*(8), 1567-1579.
- Heydair, A., Dashtgard, A., & Moghadam, Z. E. (2014). The effect of Bandura's social cognitive theory implementation on addiction quitting of clients referred to additional quitting clinics. *Iranian Journal of Nursing and Mid-Wifery, 19*(1), 19-23.
- Hinojosa, A. S., Gardner, W. L., Walker, H. J., Coglisier, C., & Gullifor, D. (2017). A review of cognitive dissonance theory in management research: Opportunities for further development. *Journal of Management, 43*(1), 170-199.
- Hinrichsen, J., & Coombs, A. (2013). The five resources of critical digital literacy: A framework for curriculum integration. *Research in Learning Technology, 21*, 1-16.
- Ho, V.-T., Nakamori, Y., Ho, T.-B., & Lim, C. P. (2016). Blended learning model on hands-on approach for in-service secondary teachers: Combination of e-learning and face-to-face discussion. *Education Information Technology, 21*, 185-208.
- Hoch, S. J. (1987). Perceived consensus and predictive accuracy: The pros and cons of projection. *Journal of Personality and Social Psychology, 53*(2), 221-234.
- Holmes, D. S. (1968). Dimensions of Projection. *Psychological Bulletin, 69*(4), 248-268.
- Holzberger, D., Phillip, A., & Kunter, M. (2013). How teachers' self-efficacy is related to instructional quality: A longitudinal analysis. *Journal of Educational Psychology, 105*(3), 774-786.

- Horn, M., & Staker, H. (2015). *Blended: Using disruptive innovation to improve schools*. San Francisco, CA: Jossey-Bass.
- Horney, K. (1939). *New ways in psychoanalysis*. New York, NY: Norton.
- Ilijins, J., Skvarciany, V., & Gaile-Sarkane, E. (2015). Impact of organizational culture on organizational climate during the process of change. *Procedia - Social and Behavioral Sciences*, 213, 944-950.
- Johnson, L. (2014). *Horizon report: 2014 Higher Education*. Austin: New Media Consortium.
- Kahn, A. S., Ratan, R., & Williams, D. (2014). What we distort in self-report: Predictors of self-report errors in video game play. *Journal of Computer-Mediated Communication*, 19, 1010-1023.
- Kashima, Y., Wilson, S., Lusher, D., Pearson, L. J., & Pearson, C. (2013). The acquisition of perceived descriptive norms as social category learning in social networks. *Social Networks*, 35, 711-719.
- Kazu, I. Y., & Demirkol, M. (2013). Effect of blended learning environment model on high school students' academic achievement. *The Turkish Online Journal of Educational Technology*, 13(1), 78-87.
- Kelly, G. A. (1963). *A theory of personality: The psychology of personal constructs*. New York, N.Y.: The Norton Library .
- Kerlinger, F. N. (1986). *Foundations of behavioral research*. New York , N.Y.: Holt, Rinehart & Winston.
- Kim, C., Kim, M. K., Lee, C., Spector, J. M., & Demeester, K. (2013). Teacher beliefs and technology integration. *Teaching and Teacher Education*, 29, 76-85.

- Kirkwood, A., & Price, L. (2013). Technology-enhanced learning and teaching in higher education: What is "enhanced" and how do we know? A critical literature review. *Learning, Media and Technology*, 39(1), 6-36.
- Komarraju, M., & Nadler, D. (2013). Self-efficacy and academic achievement: Why do implicit beliefs, goals and effort regulation matter? *Learning and Individual Differences*, 25, 67-72.
- Koo, M., & Fishbach, A. (2014). Dynamics of self-regulation: How (un)accomplished goal actions affect motivation. *Motivation Science*, 1, 73-90.
- Korstanje, M. (2012). Reviewing educational concerns. *Journal of Hospitality, Leisure, Sport, and Tourism Education*, 11, 83-85.
- Krueger, J., & Clement, R. W. (1994). The truly false consensus effect: An ineradicable and egocentric bias in social perception. *Journal of Personality and Social Psychology*, 67, 596-610.
- Krumpal, I. (2013). Determinants of social desirability bias in sensitive surveys: A literature review. *Quality and Quantity*, 47(4), 2025-2047.
- Kunnari, I., & Ilomaki, L. (2016). Reframing teachers' work for educational innovation. *Innovations in Education and Teaching International*, 53(2), 167-178.
- Lai, K. W., Khaddaget, F., & Knezek, G. (2013). Blending student technology experiences in formal and informal learning. *Journal of Computer Assisted Learning*, 29, 414-425.
- Lane, P. J., & Lubatkin, M. (1998). Relative absorptive capability and interorganizational learning. *Strategic Management Journal*, 19(5), 461-477.

- Lee, W., Lee, M.-J., & Bong, M. (2014). Testing interest and self-efficacy as predictors of academic self-regulation and achievement. *Contemporary Educational Psychology, 39*, 86-99.
- Lim, S., & Eo, S. (2014). The mediating roles of collective teacher efficacy in the relations of teachers' perceptions of school organizational climate to their burnout. *Teaching and Teacher Education, 44*, 138-147.
- Lindenberg, S. (2014). Sustainable cooperation needs tinkering with both rules and social motivation. *Journal of Bioeconomics, 16*(1), 71-81.
- Lotter, C., Smiley, W., Thompson, S., & Dickenson, T. (2016). The impact of a professional development model on middle school science teachers efficacy and implementation of inquiry. *International Journal of Science Education, 38*(18), 2712-2741.
- Mahmoe, H. M., & Pirkamali, M. A. (2013). Teacher self-efficacy and students' achievement: A theoretical overview. *The Social Sciences, 8*(2), 196-202.
- Martin, J. (2004). Self-regulated learning, social cognitive theory, and agency. *Educational Psychologist, 39*(2), 135-145.
- Martinie, M.-A., Olive, T., Milland, L., Joule, R.-V., & Capa, R. L. (2013). Evidence that dissonance arousal is initially undifferentiated and only later labeled as negative. *Journal of Experimental Social Psychology, 49*, 767-770.
- Matsueda, R. L., & Anderson, K. (1998). The dynamics of delinquent peers and delinquent behavior. *Criminology, 36*, 269-308.
- McAuley, E., & Blissmer, B. (2000). Self-efficacy determinants and consequences of physical activity. *Exercise Sport Science Review, 28*, 85-88.

- Mckibben, W. B., & Silva, P. J. (2015). Evaluating the distorting effects of inattentive responding and social desirability on self-report scales in creativity and the arts. *The Journal of Creative Behavior, 51*(1), 57-69.
- Means, B., Toyama, Y., Murphy, R., & Baki, M. (2013). The effectiveness of online and blended learning: A meta-analysis of the empirical literature. *Teachers College Record, 115*, 1-47.
- Merchant, G. (2012). Mobile practices in everyday life: Popular digital technologies and schooling revisited. *British Journal of Educational Technology, 43*(5), 770-782.
- Michigan Virtual Learning Research Institute. (2016, February 10). *Teacher Self-assessment for blended learning*. Retrieved from Michigan Virtual Learning Research Institute: <https://mvlri.org/blog/teacher-self-assessment-for-blended-learning/>
- Mohammadyari, S., & Singh, H. (2015). Understanding the effect of e-learning on individual performance: The role of digital literacy. *Computers & Education, 82*, 11-25.
- Moskal, P., Dziuban, C., & Hartman, J. (2013). Blended learning: A dangerous idea? *Internet and Higher Education, 18*, 15-23.
- Murstien, B. I., & Pryer, R. S. (1959). The concept of projection: A review. *Psychological Bulletin, 56*, pp. 352-374.
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *The Academy of Management Review, 23*, 242-266.
- Ng, W. (2012). Can we teach digital native digital literacy? *Computers & Education, 59*, 1065-1078.
- Nie, Y., Tan, G. H., Liau, A. K., Lau, S., & Chua, B. L. (2013). The roles of teacher efficacy in instructional innovation: Its predictive relations to constructivist and didactic instruction. *Educational Resource Policy Practice, 12*, 67-77.

- Oliver, W. (2014). *Oliver's Blended Framework for Instruction*. Retrieved from blendedprofile.
- Oppong, S. (2014). Between Bandura and Giddens: Structuration theory in social psychological research? *Psychological Thoughts*, 7(2), 111-123.
- Orhun, A. Y., & Urminsky, O. (2013). Conditional projection: How own evaluations influence beliefs about others whose choices are known. *Journal of Marketing Research*, 1, 111-124.
- Padilla-Melendez, A., del Aguilar-Obra, A. R., & Garrido-Moreno, A. (2013). Percieved playfulness, gender differences and technology acceptance model in a blended learning scenario. *Computers & Educaiton*, 63, pp. 306-317.
- Parks, R. A., Oliver, W., & Carson, E. (2016). The status of middle and high school instruction: Examining professional development, social desirability and teacher readiness for blended pedagogy in southeastern United States. *Journal of Online Learning*, 2(2), 79-101.
- Persson, M., & Solevid, M. (2014). Measuring political participation - testing social desirability bias in a web-survey experiment. *International Journal of Public Opinion*, 26(1), 98-112.
- Poon, J. (2013). Blended learning: An institutional appraoch for enhancing students' learning experiences . *Journal of Online Learning and Teaching*, 9(2), 271-288.
- Poropat, A. E. (2014). A meta-anlysis of adult-rated child personality and academic performance in primary education. *British Journal of Educational Psychology*, 84, 239-252.
- Proulx, T., Inzlicht, M., & Harmon-Jones, E. (2012). Understanding all inconsistency compensation as a palliative response to violated expectations. *Trends in Cognitive Sciences*, 16, 285-291.

- Randles, D., Inzlicht, M., Proulx, T., Tullet, A. M., & Heine, S. J. (2015). Is dissonance reduction a special case of fluid compensation? Evidence that dissonance cognitions cause compensatory affirmation and abstraction. *Journal of Personality and Social Psychology*, *108*(5), 697-710.
- Reid, P. (2014). Categories for barriers to adoption of instructional technologies. *Education and Information Technologies*, *19*(2), 383-407.
- Ritchey, F. (2008). *The statistical imagination: elementary statistics for social sciences* (2nd ed.). Boston, MA: McGraw-Hill.
- Roach, T. (2014). Student perceptions toward flipped learning: New methods to increase interaction and active learning in economics. *International Review of Economics Education*, *17*, 74-84.
- Rodgers, E. M. (2003). *Diffusion of Innovations*. New York, N.Y.: Free Press.
- Rodriguez-Campos, L., Berson, M. J., Owens, C. M., Egea-Walker, C., & Belara, A. (2014). Challenges in evaluating outcomes influenced social desirability: Lessons learned from an evaluation of a civic education professional development program. *Global Education Journal*, *2014*(3), 26-38.
- Ross, L., Greene, D., & House, P. (1977). The "false consensus effect": An egocentric bias in social perception and attribution process. *Journal of Experimental Psychology*, *13*(3), 279-301.
- Selwyn, N. (2014). *Digital technology and the contemporary university*. London: Routledge.
- Senge, P. M. (1990). *The fifth discipline: The art of practice of the learning organization*. New York, NY: Doubleday.

- Shank, D. B., & Cotten, S. R. (2014). Does technology empower urban youth? The relationship of technology use to self-efficacy. *Computers & Education, 70*, 184-193.
- Sherwood, G. G. (1979). Classical and attributive projection: Some new evidence. *Journal of Abnormal Psychology, 88*(6), 635-640.
- Sherwood, G. G. (1981). Self-serving biases in person perception: Reexamination of projection as a mechanism of defense. *Psychological Bulletin, 90*(3), 445-459.
- Skaalvik, E. M., & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout: A study of relations. *Teaching and Teacher Education, 26*, 1059-1069.
- Skaalvik, E. M., & Skallvik, S. (2014). Teacher self-efficacy and perceived autonomy: Relations with teacher engagement, job satisfaction, and emotional exhaustion. *Psychological Reports: Employment Psychology & Marketing, 114*(1), 68-77.
- Smith, N. V. (2013). Face-to-face vs. blended learning: Effects on secondary students' perceptions and performance. *Social and Behavioral Sciences, 89*, 79-83.
- Stajkovic, A. D., & Luthans, F. (1998). Social cognitive theory and self-efficacy: Going beyond traditional motivation and behavioral approaches. *Organizational Dynamics, 26*(4), 62-74.
- Tang, C. M., & Chaw, L. Y. (2016). Digital literacy: A prerequisite for effective learning in a blended learning environment. *The Electronic Journal of e-learning, 14*(1), 54-65.
- Tobin, R., & Tippett, C. D. (2013). Possibilities and potential barriers: Learning to plan for differentiated instruction in elementary science. *International Journal of Science and Mathematics Education, 12*(2), 423-443.
- Tracey, T. J. (2016). A note on socially desirable responding. *Journal of Counseling Psychology, 63*(2), 224-232.

Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct.

Teaching and Teacher Education, 17, 783-805.

Tschannen-Moran, M., & Woolfolk, A. H. (2001). Teacher efficacy: Capturing an elusive

construct. *Teaching and Teacher Education, 17*, 783-805.

Tschannen-Moran, M., Hoy, A. W., & Hoy, W. K. (1998). Teacher efficacy: It's meaning and

measure. *Review of Educational Research, 68*(2), 202-248.

Turner, Y. (2015). Last orders for the lecture theatre? Exploring blended learning approaches and

accessibility for full-time international students. *The International Journal of*

Management Education, 13(2), 163-167.

Vancouver, J. B., Gullekson, N. L., Morse, B. J., & Warren, M. A. (2014). Finding a between-

person negative effect of self-efficacy on performance: Not just a within-person effect

anymore. *Human Performance, 27*, 243-261.

Ventimiglia, M., & MacDonald, D. A. (2012). An examination of the factorial dimensionality of

the Marlowe Crowne social desirability scale. *Personality and Individual Differences, 52*,

487-491.

Vesteinsdottir, V., Reips, U.-D., Joinson, A., & Thorsdottir, F. (2017). An item level evaluation

of the Marlowe-Crowne social desirability scale using item response theory on Icelandic

panel data cognitive interviews. *Personality and Individual Differences* .

Vigil-Colet, A., Morales-Vives, F., & Lorenzo-Seva, U. (2013). How social desirability and

acquiescence affect the age-personality relationship. *Psicothema, 25*(3), 342-348.

Vygotsky, L. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.

Warner, R. M. (2013). *Applied statistics: From bivariate through multivariate techniques* (2nd

Edition ed.). Thousand Oaks, CA: Sage Publications.

- Watson, J., Murin, A., Vashaw, L., Gemin, B., & Rapp, C. (2013). *Keep pace with k-12 online and blended learning: An annual review of policy and practice*. Durango: Evergreen Education group.
- Wicklund, R., & Brehem, M. M. (1976). *Perspectives on cognitive dissonance*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Wohrmann, A. M., Deller, J., & Wang, M. (2013). Outcome expectations and work design characteristics in post-retirement work planning. *Journal of Vocational Behavior*, 83, 219-228.
- Wojcik, S. P., & Ditto, P. H. (2014). Motivated happiness: Self-enhancement inflates self-reported subjective well-being. *Social Psychological and Personality Science*, 5(7), 825-834.
- Wylie, R. C. (1957). Some relationships between defensiveness and self-concept discrepancies. *Journal of Personality*, 25(5), 600-616.
- Zenmore, S. E. (2012). The effect of social desirability on reported motivation, substance abuse severity, and treatment attendance. *Journal of Substance Abuse Treatment*, 42(4), 400-412.
- Zhang, Y.-f., Duan, H.-y., & Geng, Z.-l. (2017). Evolutionary mechanism of fragility in social consensus based on negative emotions spread. *Complexity*, 1, 1-8.
- Zimmerman, B. J. (2013). From cognitive modeling to self-regulation: A social cognitive career path. *Educational Psychologist*, 48(3), 135-147.
- Zuffiano, A., Alessandri, G., Gerbino, M., Kanacri, B. P., Di Giunta, L., Milioni, M., & Caprara, G. V. (2013). Academic achievement: The unique contribution of self-efficacy beliefs in

self-regulated learning beyond intelligence, personality traits and self-esteem. *Learning and Individual Differences*, 23, 158-162.

Appendix A

Dear Doug Renfro,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study does not classify as human subjects research. This means you may begin your research with the data safeguarding methods mentioned in your IRB application.

Your study does not classify as human subjects research because it will not involve the collection of identifiable, private information.

Please note that this decision only applies to your current research application, and any changes to your protocol must be reported to the Liberty IRB for verification of continued non-human subjects research status. You may report these changes by submitting a new application to the IRB and referencing the above IRB Application number.

If you have any questions about this determination or need assistance in identifying whether possible changes to your protocol would change your application's status, please email us at irb@liberty.edu.

Sincerely,


G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
The Graduate School



Liberty University | Training Champions for Christ since 1971

Appendix B

Data Use Permission

Wendy Oliver 

Yesterday at 3:54 PM

WO

Re: Permission to Use Data from Blended Practice Profile

To: Renfro, Douglas Scott



Doug, I am looking forward to seeing the results of your study, and I am happy to provide you with de-identified data.

Wendy



Wendy L. Oliver, Ed.D.
Sr. Learning Architect Officer, ASU Prep Digital

[REDACTED]

[See More from Renfro, Douglas Scott](#)



Wendy L. Oliver, Ed.D.
Sr. Learning Architect Officer, ASU Prep Digital

[REDACTED]

Found in Sent - Exchange Mailbox



Renfro, Douglass Scott

October 16, 2017 at 9:55 AM

DR

Permission to Use Data from Blended Practice Profile

To: Wendy.Oliver@asu.edu

Dr. Oliver [REDACTED]

I am writing to request the permission to use the archival data that you have collected using the Blended Practice profile tool. This data will be used in the completion of my research for my Dissertation at Liberty University.

Thank you in advance for the consideration and use of the collected data.

Doug Renfro