Theses and Dissertations

2017

Teacher engagement in grades 4-8

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TEACHER ENGAGEMENT IN GRADES 4-8

A dissertation submitted in partial satisfaction

of the requirements for the degree of

Doctor of Education in Organizational Leadership

by

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April, 2017

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This dissertation, written by

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ABSTRACT

Teachers are central to the experience of children in schools and their influence on classroom learning is pivotal. The engagement of teachers in their work is linked to increased job satisfaction, workplace productivity, and even student engagement. Teacher engagement should be considered distinctly from general work engagement. An expanding appreciation of teacher engagement presents opportunities for leaders to improve the work environment of teachers.

In a review of previous literature, this study attempted to delineate and define work engagement, generally, and teacher engagement specifically. It aimed to illuminate the importance of identifying and understanding when a teacher is engaged. This study suggested ways school leaders and policy makers could use teacher engagement to improve the teaching and learning that takes place in their schools.

This study measured teacher engagement at a small independent K-8 school in two ways: (a) as a personal trait (using the Engaged Teachers Scale or ETS administered once); (b) as a state that may change over time (using an Experience Sampling Method form or ESF multiple times over the course of a work week). The ESF also measured variables on instructional format and levels of interaction with an administrator.

The findings of this study described the teacher engagement of the population sampled. It weighed the relationship between trait teacher engagement and state teacher engagement. It found a significant relationship between a teacher's engagement when measured as a static trait and that teacher's engagement when measured as a dynamic state. The study found a significant relationship between trait teacher engagement and a teacher's social interactions with students. It did not find a similarly significant relationship when considering state teacher engagement. This study also considered the relationship between teacher engagement and a teacher's last

interaction with an administrator. It also considered a teacher's social engagement with

colleagues. The study explored the relationships between teacher engagement and the mean

number of different instructional formats used in each class period. Finally, the study considered

the relationships that might be present between teacher engagement and the percentage of time

that a teacher uses varying instructional formats.

Keywords: engagement, teacher engagement, work engagement, Engaged Teachers

Scale, ETS, UWES, Experience Sampling Method, ESM.

Chapter 1. Introduction

Background

When a school administrator seeks to effect positive change in a school setting, teachers are called to implement, nurture, and assess that change. The teacher is the personification of education for students and parents in elementary education and beyond. The role of the teacher is central to the work of a school. Teachers play an outsized role in improving student outcomes (Chen, Lattuca, & Hamilton, 2008; Clifton & Harter, 2003). Yet, teachers experience setbacks and stress at the highest levels across occupations along with high levels of exhaustion and cynicism (Hakanen, Bakker, & Schaufeli, 2006; Johnson et al., 2005). This challenge invites thoughtful leaders to consider their school organizational environments and the teachers working in them (Clifton & Harter, 2003; Leiter & Maslach, 2010). Administrators play a sizable role in influencing the engagement and productivity of teachers (Clifton & Harter, 2003). This potentially affects the quality of a school's program and the learning that happens in the school. The impact leaders have on teachers may even impact the "bottom line" of a school associated with retaining great teachers. Promoting engagement in teachers is simply good management and stewardship of the positive change that effective leaders desire.

Scholars and practitioners alike frequently highlight the importance of student engagement. Student engagement is often studied in research on education. Relatively little research has focused on the engagement of teachers themselves. In a context of increasing burnout, stress, and anxiety in teachers, teacher engagement is a construct that merits attention. Focusing on ways that teachers can be nurtured to their highest potential is more fruitful than focusing on weaknesses and deficiencies (Clifton & Harter, 2003). Positive psychology research

suggests that building on strengths will lead to higher teacher engagement along with other benefits.

The teacher plays a leading role in the classroom, which makes studying teacher engagement relevant to every school setting. Engagement is considered to be a multi-dimensional factor consisting of enjoyment of work, participation in the workplace, positive future career aspirations, buoyancy, and low absenteeism (Parker, Martin, Colmar, & Liem, 2012, p. 506). Kahn (1990) first conceptualized engagement as "the harnessing of organizational members' selves to their work roles" (May, Gilson, & Harter, 2004, p. 12). To thrive at work, individuals "must be able to complete immerse themselves in their work. That is, they must be able to engage the cognitive, emotional and physical dimensions of themselves in their work" (May et al., 2004, p. 12). Despite the poor compensation of teachers (Buckley, 2002), the engagement of teachers in their work requires attention as a bottom-line financial issue for schools (Bakker & Bal, 2010).

Statement of the Problem

Teachers are central to the experience of children in schools and their influence on classroom learning is pivotal. The engagement of teachers in their work, referred to as teacher engagement, is linked to increased job satisfaction, workplace productivity, and even student engagement (Parker et al., 2012). Work engagement in the general workforce is frequently studied. Teaching is a specific profession with characteristics that make it important to consider teacher engagement distinctly from work engagement in general. Despite all of the reasons that teacher engagement should be fostered and measured, teacher engagement is not systematically monitored or reviewed.

In contrast, student engagement is frequently studied and linked to diverse student-centered learning environments and to specific teaching practices. Yet, little is known about the connection between teacher engagement and the kinds of classroom environments teachers create.

Learning more about teacher engagement presents opportunities for leaders to improve the work environment of teachers and promote positive change to the settings where teachers make direct impact on learners.

Purpose and Nature of the Study

This quantitative study seeks to deepen the understanding of teacher engagement. It is an initial study that will allow for the continued development of a taxonomy and framework for better studying and measuring teacher engagement. This could lead to subsequent studies and adaptations.

This study measured teacher engagement in two ways:

- as a personal trait (using the Engaged Teachers Scale or ETS administered once);

- as a state that may change over time (using an Experience Sampling Method form or ESF multiple times over the course of a work week) along with variables on instructional format and the level of interaction with an administrator. The ESF attempts to capture data about the situations of teachers in close to real time (Hektner, Schmidt, & Csikszentmihalyi, 2007).

Purpose 1. The first purpose of this study is to identify the characteristics of state and trait teacher engagement that grade 4-8 teachers share at a small K-8 independent school. By identifying these characteristics, a taxonomy of teacher engagement will emerge in the context of an understanding that engagement variables are gradient (Chen et al., 2008). This study will use

descriptive statistics (means and standard deviations) to establish some overall pictures of

teacher engagement as measured by Engaged Teachers Scale (ETS) and an experience sampling

form (ESF).

Purpose 2. The second purpose of this study is to identify what relationship, if any,

exists between a teacher's engagement when measured as a static trait and that teacher's

engagement when measured as a dynamic state. Are teachers who are more engaged (when

measured as a static personal trait) also more engaged when engagement is measured as a

momentary state?

Purpose 3. The third purpose of this study is to identify what relationship, if any, exists

between a teacher's engagement and that teacher's social interactions with students. It seeks to

clarify whether teachers who are more social with students are more engaged.

Purpose 4. The fourth purpose of this study is to identify what relationship, if any, exists

between a teacher's engagement and that teacher's interactions with his or her school

administrators. How do leaders or administrators impact the engagement of teachers from

moment to moment? This study seeks to give school leaders deeper understanding of how their

interactions with teachers directly impact the engagement level of the teachers who work for

them, the broader teaching experience, and ultimately student engagement and learning.

Purpose 5. The fifth purpose of this study is to identify what relationship, if any, exists

between a teacher's engagement and the mean number of different instructional formats used in

each class period. Do more engaged teachers use more instructional formats in their classrooms?

This study seeks to help articulate what kind of classroom experience engaged teachers provide

when they are deep in the moment of teaching itself.

Purpose 6. The fifth purpose of this study is to identify what relationship, if any, exists between a teacher's engagement and the percentage of time that the teacher uses various instructional formats. Following DiBianca (2000), this study identifies 13 instructional formats. Of these formats, which learning formats are used most by teachers who are more engaged? Are there any correlations? Perhaps pedagogical beliefs and behaviors at the heart of teaching lesson styles reflect teacher engagement.

Research Questions

Research question 1. What are the trait and state teacher engagement characteristics for grade 4-8 teachers at a small independent school?

Research question 2. To what extent is there a relationship between a teacher's engagement when measured as a static trait and that teacher's engagement when measured as a dynamic state?

Research question 3. To what extent is there a relationship between a teacher's engagement and that teacher's social interactions with students?

Research question 4. To what extent is there a relationship between a teacher's engagement and that teacher's interactions with his or her school administrators?

Research question 5. To what extent is there a relationship between a teacher's engagement and the mean number of different instructional formats used in each class period?

Research question 6. To what extent is there a relationship between a teacher's engagement and the percentage of time that the teacher uses each of the 13 instructional formats?

Hypotheses

Research questions 2, 3, 4, 5, and 6 are clarified by developing a hypothesis. The first research question does not benefit from hypothesis testing. This study pursues questions of both

types. Table 2 highlights this study's research questions, related hypotheses, and the instruments

with the specific scale items that will be used to consider each research question.

Hypothesis 2. The second research question of this study inquires, "To what extent is

there a relationship between a teacher's engagement when measured as a static trait and that

teacher's engagement when measured as a dynamic trait." It is hypothesized that there is a

relationship between a teacher's engagement level when measured as a trait and a teacher's

engagement level when measured as a state over time.

Hypothesis 3. In considering the third research question, "To what extent is there a

relationship between a teacher's engagement and that teacher's social interactions with

students?" it is hypothesized that there is a relationship between a teacher's engagement level

and the teacher's social interactions with students. Teachers who socialize with students are more

engaged. Teachers work in a social environment. A major part of the personal identity of a

teacher is fashioned by the relationships that teacher has at work and the ways in which the

teacher interacts with others (Leiter & Maslach, 2010).

Hypothesis 4. In regard to the fourth research question, "To what extent is there a

relationship between a teacher's engagement and that teacher's interactions with his or her

school administrators?" it is hypothesized that there is a relationship between a teacher's

engagement level and the teacher's feelings about his or her interactions with administrators.

Teachers who have good interactions with their administrators are more engaged. The work of

the Gallup Organization found that employee perceptions of their organizational leaders and the

future of the organization was significantly more positive if the employees felt that the leadership

of the organization was focused on growing employee strengths (Clifton & Harter, 2003, p. 123).

Teacher beliefs and emotions are influenced by interactions with colleagues (Corno &

Anderman, 2015). Administrators and other leaders can better support the experience of teachers

in the classroom. Engagement or similar constructs should be better considered by researchers

and practitioners in promoting teaching and learning in classrooms (Zhu, 2001, p. 109).

      Hypothesis 5. Student engagement has been tied to the classroom experience of students

in previous studies (Csikszentmihalyi & Schneider, 2000, p. 162; Shernoff, 2013). Teacher

engagement has not been studied as systematically or thoroughly as student engagement. A

connection between a teacher's own internal motivation and student learning has been suggested

in the past (Roth, Assor, Kanat-Maymon, & Kaplan, 2007). The fifth research question of this

study, "To what extent is there a relationship between a teacher's engagement and the mean

number of different instructional formats used in each class period?" builds on a research

question in DiBianca (2000). In that study, DiBianca considered the relationships between types

of instructional formats and student engagement (DiBianca, 2000). The differences in levels of

engagement for each instructional format were significant. Students showed positive levels of

engagement with particular formats. Novelty may have played a role in some of the differences

in engagement levels. Student engagement seems to have been affected most meaningfully when

the type of instructional format was varied from a classroom norm. This and other previous

research suggest that it is likely that more engaged teachers use more instructional formats. For

this study's fifth research question, it is hypothesized that there is a relationship between a

teacher's engagement level and the mean number of different instructional formats used in each

class period.

      Hypothesis 6. The sixth research question seeks answers around the question, "to what

extent is there a relationship between a teacher's engagement and the percentage of time that the

teacher uses each of the 13 instructional formats?" While the fifth research question seeks to

look at the relationship between teacher engagement and the mean number of different

instructional formats used in each class period, this research question seeks to better understand

the relationship between a teacher's engagement level and the percentage of time that the teacher

uses each of the 13 instructional formats identified in the experience sampling form (ESF) used

in this study. Which instructional formats are used most by engaged teachers? As with the fifth

research question, this research question builds on issues raised in DiBianca (2000). In that

previous research, students showed positive levels of engagement with particular formats

(DiBianca, 2000, p. 120). For this study's sixth research question, it is hypothesized that there

will be at least one significant relationship between a teacher's engagement level and the

percentage of time that the teacher uses each of the 13 instructional formats.

Theoretical Framework

Theory is considered in this study to provide greater opportunity for understanding

around complex discussions of teaching practices and results related to those practices that

require more comprehensive research over time. Social science research wants to answer the

"why's" of the world by figuring out what phenomena are underway and how they occur. This

process of theorizing "consists of activities like abstracting, generalizing, relating, selecting,

explaining, synthesizing, and idealizing" (Weick, 1995, p. 389). The researcher begins with a

position about the world and an epistemology that informs the study's design choices (as

described in Grix, 2002, pp. 176-177). Social science research then uses a framework of logical

reasoning to define a problem and seek insights (Sutton & Staw, 1995, p. 374).

There is a disagreement about whether theory comes from research or precedes good

research. Theory can be understood as a continuum (Edmondson & McManus, 2007, p. 1158).

It would be convenient and orderly for social science research to be an "accumulation of

empirical findings" (Sutton & Staw, 1995, p. 379) proceeding from a well-tested theory. It

seems at least equally important to test the limits of our knowledge to build theory over time

with detailed studies (Sutton & Staw, 1995, p. 383). Any profession's "interim struggles"

(Weick, 1995, p. 389) may lead to theory that better answers the "whys" that puzzle

academicians and practitioners. This study is written from the context of a scholar-practitioner

who strives to work with specific problems in specific situations (Aram & Salipante Jr, 2003, p.

190). The "interim struggles" of the educational community may entice theory out of specific

problem solving in real-life situations. Studies occur in a context (Shah & Corley, 2006, p.

1828). When questions are intriguing or compelling (LaRossa, 2005, p. 850), studies rely on

observing human phenomena to attempt theory-based explanation. This is particularly relevant

when developing theory that will serve daily life (Shah & Corley, 2006, p. 1829).

This study relies on a theoretical framework of engagement first conceptualized by Kahn

(1990) as the harnessing of organizational members' selves to their work roles. Refined by May

et al. (2004), engagement is the immersion of workers in the cognitive, emotional, and physical

dimensions of themselves in their work. The worker's job is tied to his or her self-image with a

"role performance" (Kahn, 1990) that is improved by engagement. Teacher engagement is a

refinement of work engagement that acknowledges the unique situation and role that teachers

have in their work.

Engagement can be seen as the opposite of disengagement or alienation. Commitment

and motivation result from engagement, which makes it important for leaders to cultivate (May

et al., 2004, p. 13). In the case of teachers, this is the task of school administrators. Engagement

can be linked to variables such as employee turnover, customer satisfaction, loyalty, safety, and

to a lesser degree, productivity and profitability (Clifton & Harter, 2003, p. 118). Employees

who are engaged in their work are fully connected with their work roles. Meaningfulness and

other positive psychological factors result from increased engagement. Notably, workplace

engagement is related to but distinct from the study of student engagement in learning theory

(Bulger, Mayer, Almeroth, & Blau, 2008).

Engagement shares similarities with the concept of calling as described in Bunderson &

Thompson (2009). When work is understood as having an intrinsic meaning, when it is

perceived as a calling, that work becomes more meaningful. While teaching is often thought of

as a calling (Farkas, Johnson, & Foleno, 2000), engagement's definition makes it more

conducive to study in the context of examining classroom practice and teacher attitudes.

Engagement also shares characteristics with the concept of "flow" as conceptualized by

Csikszentmihalyi (in many works including Csikszentmihalyi, 1997; Hektner et al., 2007).

Csikszentmihalyi describes flow as the way "people have used to describe the sense of effortless

action they feel in moments that stand out as the best in their lives" (Csikszentmihalyi, 1997, p.

29). When in flow, there is a sense of immersion and "loss of time" (Hamilton, 2013a, p. 114).

Flow tends to occur when a person faces a clear set of goals that require appropriate responses

(Csikszentmihalyi, 1997, p. 29).

Operational Definitions and Key Terms

Work Engagement. Employees who are engaged in their work are fully connected with

their work roles. They are described as "bursting with energy, dedicated to their work, and

immersed in their work activities (Bakker, 2011). More recent descriptions highlight that being

engaged suggests a high level of vigor, dedication, and absorption (Hakanen et al., 2006). These

are intended to be active, positive work-related statuses (Bakker, 2011). Engagement is

described as the opposite of burnout (Parker et al., 2012, p. 506). Kahn (1990) described

engagement as a personal characteristic. There is disagreement in the literature on how to

precisely define work engagement and authors offer different constructs or definitions of

engagement. The Utrecht Work Engagement Scale (UWES), a self-report questionnaire that has

been validated several times, includes the three aspects of work engagement that emerge from

the literature most frequently (Simpson, 2009, p. 1020).

      Teacher engagement. The term teacher engagement is used in this study to describe the

employee engagement of workers involved in the teaching profession, especially in the K-12

grades. In this study, teachers are the workers that are being studied. Thus, work or employee

engagement can be understood as synonymous with teacher engagement except when a

distinction between the more general term and the more specific categorization is being made.

      Elite school. As described in Gaztambide-Fernandez (2009), six basic characteristics

describe "elite" schools: self-governance, self-support, self-defined curriculum, self-selected

students, self-selected faculty, and small size. These schools typically identify themselves as

independent schools. Challenges facing education generally (e.g., McNair, Duree, & Ebbers,

2011) foster the existence of such schools. There is, perhaps, a desire to self-perpetuate an elite

social strata (Gaztambide-Fernandez, 2009) or at least a superior form of education. The

framework of Wright Mills (1956) focuses on the "power elite" in economic, government, and

military contexts. Fletcher & Arnold (2011) describe the elite as "multifaceted" and notes a

strong emphasis on communications in leadership issues around the elite. Minority and women

perspectives in elite schools (as discussed in Zweigenhaft & Domhoff, 1998) are increasingly

valued.

Job performance. Performance of workplace setting outcomes can be measured as a variable referred to as job performance. Several studies have shown that work engagement is positively related to job performance (Bakker, 2011, p. 267).

Job resources. According to Hakanen et al. (2006, p. 497), job resources refer to those physical, psychological, social, or organizational aspects of the job that may (a) reduce job demands and the associated physiological and psychological costs, (b) are functional in achieving work goals, and (c) stimulate personal growth, learning, and development. Examples of job resources are autonomy, supervisory coaching, and opportunities for development (Bakker & Bal, 2010, p. 190).

Teacher self-efficacy. A belief or conviction that teachers' own skills or mastery can influence student behavior. Self-efficacy is the conceptualization that people have the power, through beliefs in themselves, to affect and control aspects of their lives (Bandura, 1993). Self-efficacy in the classroom and its effect on student engagement is described in Malmberg, Hagger, & Webster (2014, p. 430). That study used similar instruments to the present study.

Positive psychology. Positive psychology represents a movement in the social sciences that promotes human potential by focusing on strengths as opposed to solely focusing on weaknesses. The overall emphasis of scholars in this and related fields, such as positive organizational scholarship, is to emphasize positive traits and positive experiences of humans and institutions that have the capacity for goodness and excellence (Cameron, Dutton, & Quinn, 2003, p. 16). The goal of positive scholarship is big but complex: good life (Csikszentmihalyi, 1997). Positive psychology is studied, like other sciences, using the scientific method (Cameron et al., 2003, p. 18).

Cognitive engagement. Identified by Klassen et al. (2013) as one of the dimensions of the Engaged Teachers Scale (ETS). Found in that study to be similar to the hypothesized item of "physical engagement." An example item is "While teaching, I get absorbed in my work." Related to "absorption" in the UWES.

Emotional engagement. Identified by Klassen et al. (2013) as one of the dimensions of the Engaged Teachers Scale (ETS). Related to "dedication" in the UWES. An example item is "I really put my heart into teaching."

Social engagement with students. Identified by Klassen et al. (2013) as one of the dimensions of the Engaged Teachers Scale (ETS). An example item is "I connect well with my students."

Social engagement with colleagues. Identified by Klassen et al. (2013) as one of the dimensions of the Engaged Teachers Scale (ETS). An example item is "I am accessible to my colleagues."

Table 1 presents a convenient lexicon of terms used throughout this study.

Table 1

Lexicon Table

Term	English
Work Engagement	A theoretical framework for understanding the immersion of a worker (i.e., employee) in the cognitive, emotional, and physical dimensions in his or her work.
Teacher Engagement	Teacher engagement is a way of describing work engagement that is specific to teachers in a classroom setting.
TE:Trait	Teacher engagement when conceptualized as a pervasive state and measured with a one-time survey. In this study, TE:Trait is the second-order factor of teacher engagement measured with items 1-16 of the Engaged Teachers Scale (ETS).
TE:State	Teacher engagement when conceptualized as a dynamic state that fluctuates over time. In this study, TE:State represents the ESF scale measure of teacher engagement ((ESF Item 2 + ESF Item 5 + ESF Item 10)/3).
Experience Sampling Method (ESM)	Method designed to capture individuals' representation of experience as it occurs within the context of everyday life. Best suited for measuring dimensions of experience that are context or time dependent, e.g., "right now."
Experience Sampling Form (ESF)	Form designed for ESM study. Sometimes referred to as "ESM form." While there are a number of features in an ESF that are uniform across studies, the number and content of items varies widely depending on the research question(s) being addressed.
Utrecht Work Engagement Scale (UWES)	A one-time survey instrument that is administered to measure work engagement. While very common and widely studied, the UWES is common for all professions and careers. This allows for comparisons across professions and demographics but does not help answer questions about a specific profession, e.g., teaching. A shorter form, the UWES-9, is validated and most commonly used (Schaufeli, Bakker, & Salanova, 2006).
Engaged Teachers Scale (ETS)	The Engaged Teachers Scale (ETS) is a validated 4-factor 16-item measure of teacher engagement. The ETS can measure an overall factor of engagement or can measure four distinguished factors (below).
Cognitive engagement (CE)	One of the dimensions of the Engaged Teachers Scale (ETS). Factor analysis shows similarity to "physical engagement" dimension found in some studies. An example item is "While teaching, I get absorbed in my work."
Emotional engagement (EE)	One of the dimensions of the Engaged Teachers Scale (ETS). An example item is "I really put my heart into teaching."
Social engagement with students (SEwS)	One of the dimensions of the Engaged Teachers Scale (ETS). An example item is "I connect well with my students." Abbreviated as "SES" on the ETS (Klassen et al., 2013) but referred to as SEwS in this study.
Social engagement with colleagues (SEC)	One of the dimensions of the Engaged Teachers Scale (ETS). An example item is "I am accessible to my colleagues."

Importance of the Study

Teachers are central to the experience of children in schools. The engagement of teachers in their work is linked to increased job satisfaction, workplace productivity, and even student engagement. This study will benefit the teaching profession by furthering an understanding of teacher engagement. It will provide data on teacher engagement at the particular school site. The

importance of changing teacher beliefs, perceptions, and emotional understanding in the classroom is becoming an accepted need. There are implications for teacher selection and hiring (Corno & Anderman, 2015).

Number of individuals affected. Teachers are an incredibly important part of the educational experience. With the largest union labor force in the country, and the highest cost to the educational enterprise, it is important that studies related to teacher experience be available to leaders and policy makers. A recent government report estimates 3.5 million full-time-equivalent (FTE) elementary and secondary school teachers engaged in classroom instruction (United States Department of Education, 2015).

Limitations

Independent school setting. The present study is limited in its ability to generalize beyond the setting school due to the challenges in comparing the school climates of various schools, especially given the demographic challenges inherent in examining any one independent school (Zullig, Huebner, & Patton, 2011). Educators and administrators at leading independent schools may be accustomed to the use of rhetoric to gain market advantage (McDonald, Pini, & Mayes, 2012). Teachers may feel pressure or be accustomed to answering questions in a manner that would positively impact the school's reputation. Students in independent, or "elite", schools are atypical of the general population of students in a variety of categories (Gaztambide-Fernandez, 2009, p. 1093) so it is not possible to generalize to public schools and other more diverse private schools. This study is further limited in its impact by a perception that independent school teachers will be more engaged than peers in other institutions overall (Bermejo-Toro, Prieto-Ursúa, & Hernández, 2015, p. 17).

This study is limited in its ability to control the environment in which data will be collected. Participants may be concerned that data will not be kept confidential and that the results of the study may be used in a way that is evaluative of their work. This may limit the validity of responses. The author of this study is an administrator at the school but is not currently attending senior administration meetings and does not supervise teachers.

In an effort to mitigate the limitations of this study, personally identifiable and private information were not collected in this study. An outside researcher coded any personally identifiable information. Chapter 3 includes a deeper discussion of issues around confidentiality and data collection. By removing the author – the school's director of technology – from a visible role in the data collection of this study, it is suggested that limitations related to confidentiality will be mitigated.

Changes over the course of a career. This study does not seek to highlight changes that may or may not occur in the inner lives of teachers across career stages (Corno & Anderman, 2015, p. 406). To best protect the identity of participants, age data and teaching experience level was not collected in this limited study. Future studies would benefit from the ability to correlate similar data to age and experience levels. This may be more possible in studies featuring a larger sample.

Groupthink. This study is limited in its ability to prevent the possibility of groupthink. Groupthink can easily permeate a culture. As described in Moorhead, Ference, & Neck (1991, p. 541), a group can value its cohesiveness and the preferences of leadership. A group may prefer being insulated from new points of view, especially views from external experts. Groupthink can lead group members to adopt beliefs that are contrary to fact or make decisions that damage the school's interest. This can even happen if none of the individual group members would have

made the decision if acting alone (Leslie, 2010, p. 12). In order to prevent groupthink from

overly influencing answers to questions in the study's instruments, the tools used in this study

are digital and answered individually.

Assumptions

This study assumes that the Engaged Teachers Scale (ETS) is a reliable method to collect

and assess data regarding teacher engagement at an independent school in the United States. It is

assumed that a proportional sample of the school's teachers will participate in the study

regardless of their existing levels of engagement, or, conversely, burnout. While job resource

availability is expected to affect engagement (Schaufeli & Bakker, 2004, p. 11), all sample

teachers work in a setting where all there is equal access to technology including tablets for

taking the survey instrument. Participation was encouraged by group discussion of the goals and

importance of this study. Participants were provided work time to fill out required forms and

other response instruments.

Chapter 2. Review of Relevant Literature

This literature review seeks to contribute to the knowledge of issues related to the work

engagement of teachers. Specifically, this study attempts to:

- delineate and define work engagement and teacher engagement;

- illuminate the importance of identifying and understanding teacher engagement;

- identify and examine ways to study and measure teacher engagement;

- suggest ways school administrative leaders and policy makers could use teacher

   engagement to improve the work situation of teachers and the teaching and

   learning that takes place in their schools.

In order to contextualize the work of leaders and the impact leaders may have on teacher

engagement (as raised by research question 4 of this study), this literature review will also

discuss leadership theory to set parameters for conversation around the impact of leaders on their

followers, that is, on teachers.

Teacher turnover taxes the entire educational enterprise (Parker et al., 2012, p. 503). This

presents several challenges for leaders in organizations. Turnover of even the lowest-paid

employees is expensive and these costs are often not well understood by organizations (Batt,

2002, p. 589). This is even more challenging for employees, like teachers, who are highly

educated and trained. When an employee decides to leave his or her workplace, that employee's

motivation at the outgoing workplace is immediately diminished and productivity is decreased. If

calculated, the costs of each departure would be great. In aggregate, the costs of teacher turnover

would be staggering (Hillmer, Hillmer, & McRoberts, 2004, p. 39).

Schools face increasing budget pressure to make wise choices with limited public and

private funding. While all aspects of well-being are worth considering, teacher engagement is a

specific lens into the overall psychology of teachers and, when framed positively, will help

leaders prioritize their efforts in schools where higher productivity and economic savings related

to human resources are rarely quantified but great (Clifton & Harter, 2003, p. 118). Schools that

engage their teachers more effectively can become workplaces of choice (Leiter & Maslach,

2010, p. 165) in a time when teacher shortages challenge recruitment efforts. If teacher

engagement and its relationship to practices in the classroom are better understood, new avenues

for research and practical interventions may become available.

Research on work engagement and related constructs is flourishing. Every year, multiple

empirical studies are published (Sonnentag, 2011, p. 31). This study reviews literature directly

related to measuring work engagement; literature around teacher engagement whenever it was

published; and the most recent work around work engagement as it relates to measurement

instruments discussed in this review.

Conceptualizing Work Engagement

This study focuses on a theoretical framework of teacher engagement that is understood

as work or employee engagement when discussing teachers and the teaching profession

specifically. The work engagement framework has a lineage that includes "pop psychology"

beginnings and usage among human-resource practitioners (Macey & Schneider, 2008) that is

largely beyond the scope of this study.

In theoretical research, work engagement was first conceptualized by Kahn (1990) as

"the harnessing of organizational members' selves to their work roles." An engaged worker

expresses his or her true self within the employee's work role (Rupayana, 2008, p. 11). As Kahn

explained, "self and role exist in some dynamic, negotiable relation in which the person drives

personal energies into role behaviors and displays the self within the role through self

expression" (Kahn, 1990, p. 700). An engaged worker is fully immersed in the task at hand in an

emotionally positive way. As one researcher has said in describing this concept, "when people

are engaged, magic happens" (E. Hamilton, personal communication, November 27, 2015).

Refined by May et al. (2004) in their empirical study, engagement is the immersion of

workers in the cognitive, emotional, and physical dimensions in their work. When

meaningfulness, safety, and availability are enhanced, engagement is more present. Work is

more productive when a worker feels that his or her work is meaningful. The worker's job is

tied to his or her self-image with a sense of role performance that is improved by engagement

(Kahn, 1990). Safety is a prerequisite to meaningful involvement in one's work. Availability is

the requirement that an employee is able to focus on the task at work and not other distractors in

life or around the work environment.

Refinement of engagement construct. Kahn's work gives little hint to how

organizations can increase employee engagement or how organizations are directly benefited by

increasing engagement (Rupayana, 2008, p. 12). Later authors suggest that improving all aspects

of employee well-being, including engagement, are associated with higher business-unit

customer loyalty, higher profitability, higher productivity, and lower rates of turnover (Clifton &

Harter, 2003, p. 116; Harter, Schmidt, & Keyes, 2003, p. 1). Well-being, generally, and perhaps

even physical health, are positively impacted by being highly engaged in one's work (Spreitzer,

Sutcliffe, Dutton, Sonenshein, & Grant, 2005; Treadgold, 1999).

As the work engagement construct continued to be refined, authors sought to more deeply

understand employee engagement and the ways increasing engagement might enhance a

workplace's productivity. Commitment and motivation result from engagement, which makes it

important for managers – in the case of teachers, administrators – to cultivate (May et al., 2004,

p. 13). Engagement can be linked to variables such as employee turnover, customer satisfaction,

loyalty, safety, and to a lesser degree, productivity and profitability. Meaningfulness and other

positive psychological factors result from increased engagement.

       Job Resources and work engagement. An abundance of literature (e.g., Salanova,

Agut, & Peiró, 2005; Xanthopoulou, Baker, Heuven, Demerouti, & Schaufeli, 2008, p. 345)

reflects an understanding that job resources positively effect work engagement and teacher

engagement specifically (Hakanen et al., 2006). In this understanding, the psychological

mechanisms involved in increasing engagement apply to all settings. The availability of job

resources becomes critical (Xanthopoulou et al., 2008, p. 354). If job resources are indeed so

important to increasing work engagement, organizations should emphasize to employees that a

way to increase the receipt of support is to mutually give support to fellow employees

(Xanthopoulou et al., 2008, p. 354). Job resources include not only tangible items such as

abundant chalk, but also personal resources such as self-efficacy, self-esteem, and optimism

(Xanthopoulou et al., 2008, p. 355). Research suggests that management should not wait for a

group of employees to become less engaged and then take corrective measures. Rather,

employees should be proactively encouraged to support each other and thus feel engaged in their

work. This will create an "affective climate in the work unit" in the organization that will benefit

the goals of the organization, especially in service to the customer (Salanova et al., 2005, p.

1224).

       Calling construct. Engagement shares similarities with the concept of calling as

described in Bunderson & Thompson (2009). Work is something that simply "exists" for many

workers. When work is more deeply understood as having an intrinsic meaning—as a calling—

that same work becomes more meaningful. A classical definition of calling is "that place in the

world of productive work that one was created, designed, or destined to fill by virtue of God-given gifts and talents and the opportunities presented by one's station in life" (Bunderson & Thompson, 2009, p. 33).

This construct of calling is not limited to those who have a belief in God's providence. In a seminal study of calling that examined zookeepers, no correlation was found between belief in a higher power and the sense of calling — though the conceptualizations were similar (Bunderson & Thompson, 2009, p. 38). Described as coming from within, the zookeepers' "sense of calling was therefore grounded in a perceived connection between personal passions and endowments and particular domains of work for which those passions and endowments seem particularly well-suited" (Bunderson & Thompson, 2009, p. 37). Bunderson & Thompson (2009) describe a "neoclassical" sense of calling that seems particularly useful for our time: the sense that one is doing the work in society that the individual is destined to fill by virtue of particular gifts, talents, and opportunities.

Calling does not only represent positives. Calling is also a source of "unbending duty, sacrifice, and vigilance" that can be "painful" (Bunderson & Thompson, 2009, p. 50). On the one hand, workers with a sense of calling strongly identified with, and found broader meaning and significance in, their work and occupation. On the other hand, they were more likely to see their work as a moral duty, to sacrifice pay, personal time, and comfort for their work, and to hold their workplace to a higher standard.

It is worth considering whether it is ethically appropriate to advise new workers in low-pay fields such as teaching to seek their callings at the cost of sacrificing money, time, and physical comfort. According to Bunderson and Thompson (2009), "a neoclassical calling cannot inspire profound meaning without simultaneously requiring profound sacrifice" (p. 52). Given

the conceivable income gap between the leader and the entry-level employee, it may be

uncomfortable or even inappropriate for a leader to suggest sacrifice to the employee. This

relationship invites further study especially given the disparity between the incomes of school

administrators and entry-level teachers.

Teaching is "traditionally viewed as a profession with high initial commitment to the

extent that teaching can be said to be a calling for many entering the profession" (Hakanen et al.,

2006, p. 509). Most new teachers really want to make a difference in their field (Betts, 2010, p.

2). There is reason to believe that there is a high correlation between being engaged in one's

work and the calling construct (Treadgold, 1999). Despite teaching being thought of as a calling

(Farkas et al., 2000), the engagement construct's direct applicability to the teacher's day-to-day

work makes it more conducive to study in the context of examining classroom practice and

teacher attitudes. Further, the development of several instruments to assess engagement makes it

easier to determine levels of engagement than a sense of calling. While it is beyond the scope of

this study, the similarities of the two constructs suggest that a teacher with high engagement

might have a developed sense of calling (Hakanen et al., 2006). Further study on the

relationships between calling and engagement would be fruitful, especially in teaching, where

the language of vocation and calling is often invoked (e.g., Hakanen et al., 2006; Rawat &

Nadavulakere, 2015).

Flow construct. This study's reliance on Experience Sampling Method (ESM) implicitly

raises the concept of "flow" as conceptualized by Csikszentmihalyi (in many works including

Csikszentmihalyi, 1997; Hektner et al., 2007) and its relationship to the conceptualization of

work engagement. Csikszentmihalyi describes flow as the way "people have used to describe

the sense of effortless action they feel in moments that stand out as the best in their lives"

(Csikszentmihalyi, 1997, p. 29). When in flow, there is a sense of immersion and "loss of time" (Hamilton, 2013a, p. 114). Flow "tends to occur when a person faces a clear set of goals that require appropriate responses" (Csikszentmihalyi, 1997, p. 29).

In the context of places of learning, the attainment of flow is an aspiration that comes with hopefulness and optimism that is reminiscent of religious fervor. As one researcher notes, "there is a sacredness to learning in social contexts, to learners being fully absorbed in tasks of their own direction, to the exploration and imagination that accompanies new tools" (Hamilton, 2013a, p. 112). Others caution that being in a state of flow does not necessarily include learning. For example, respondents often report being in a flow state while driving which may not involve learning unless the driver is driving a new car or speaking with a passenger (Spreitzer et al., 2005).

Paradox of work. As Csikszentmihalyi describes, work is the place where most adults spend a vast amount time. It accounts for "some of the most intense and satisfying moments" and yet is also a setting most people report being "glad to avoid" (Csikszentmihalyi, 1997, p. 49). Results of ESM studies show that children and young adults learn to have the same ambivalence towards work as the adults in their lives relatively early in life (Csikszentmihalyi, 1997, p. 54). The findings of ESM studies suggest that flow is more often achieved in moments that are on the job versus free time. There are more opportunities for high-challenge, high-skill situations that involve concentration, creativity, and thus satisfaction (Csikszentmihalyi, 1997, p. 59). Csikszentmihalyi has found that when people are engaged in work they have not "freely chosen as part of a purposeful life," (Treadgold, 1999, p. 87) they experience lower satisfaction, greater frustration, and higher stress.

Correlation to engagement and other frameworks. In one study, individuation, self-actualization, flow, and being engaged in meaningful work as a calling were correlated negatively with stress and depression and correlated positively with clarity of self-concept (Treadgold, 1999). This suggests that it is worth investigating concepts such as flow and engagement to achieve more clarity about what they are actually measuring and how increasing each of these qualities in teachers could be achieved.

When an employee is engaged in his or her work, the employee is immersed "in the cognitive, emotional, and physical dimensions of themselves in their work" (May et al., 2004, p. 12). At first, this seems very similar to the way flow is described. There are some ways in which they can be distinguished. The emphasis on the "peak" of experience is one way that they can be differentiated: in contrast to flow, work engagement is not conceptualized as a "temporarily highly confined peak experience" but as an ongoing motivational state" that can vary over time (Bledow, Schmitt, Frese, & Kühnel, 2011, p. 1247).

Zhu (2001) suggests that when teachers are in flow they are more likely to empower students to take control of their learning by focusing on students' interests, helping students set goals, and providing clear feedback. He quotes Csikszentmihalyi's insight that "when a teacher is in flow, it is easier for students to be in flow too; whereas it is harder for students to be in flow if the teacher is not in flow" (Zhu, 2001, p. 17). This suggestion does not agree with the results of DiBianca's (2000) dissertation and other studies (e.g., Harland, 2003) that demonstrate this kind of correlation between student and teacher flow only very rarely.

Zhu (2001) notes that cognitive engagement is *not* equivalent to flow. Yet, when someone is in flow, he or she must be highly "cognitively" engaged. This makes sense in

classroom settings. It seems that this could be predicted by the high intrinsic motivation required in both flow and work engagement constructs.

Growth mindset construct. A pivotal construct in educational theory is growth mindset, developed by Carol Dweck, a professor and researcher at Stanford University whose work is known for clarifying the role of mindset or self-conception and learning. For Dweck, "the view you adopt for yourself profoundly affects the way you lead your life" (Dweck, 2006, p. 6). A "fixed mindset" represents the belief that your IQ and capabilities are "fixed" and immutable. Learning becomes merely a requirement to confirm or prove innate intelligence. Encouraging someone by boosting his or her self-esteem only encourages the vulnerability of a fixed mindset. In a learning environment, the fixed mindset or "performance orientation" becomes a "waste of time" (Dweck, 2006, p. 7).

On the other hand, a growth mindset "is based on the belief that your basic abilities are things that you can cultivate through your efforts" (Dweck, 2006, p. 7). Potential is not pre-determined and with work, improvement is possible. With a theory of "malleable intelligence" or "incremental theory" even learners with low confidence in their intelligence will thrive on challenge and throw themselves at new learning (Dweck, 2000, pp. 3-4). Such learners feel smart when they are exerting effort – the precise opposite of students with a fixed mindset. Self-esteem is not something "given" to the student by parents, professors, or society telling a student that he or she is intelligent. Rather, it is given by teaching students to "value learning."

Dweck believes that the patterns she has identified in the laboratory do operate in natural settings for all ages ("Interview with Dr. Carol Dweck—Developing a Growth Mindset," 2011; Dweck & Leggett, 1988, p. 258). Some recent research has taken the question of the applicability of Dweck's patterns for adults (see, for example, Heslin, Vandewalle, & Latham,

2006, p. 876) and applied them to employer-employee issues and suggested generalizability (p. 884). While it is not clear whether the implications of Dweck's studies are as powerful for adult learners, they are at least informative and probably pivotal when considering engagement in education settings. Future research should examine the relationship of growth mindset in teachers to teacher engagement. This could allow for a better understanding of the role of work engagement especially as more creative work arrangements (Gagné & Panaccio, 2014) became prevalent in schools.

   Self-efficacy. While there are relatively few studies directly addressing teacher engagement, some studies that examine other constructs leave clues to how teachers' internal states are affected by their situations. For example, one study on teacher self-efficacy found that teachers felt more efficacious to support learning in active situations (introducing new topics, consolidating and revising) than in assessment situations (Malmberg et al., 2014, p. 446). There is an intuitive logic that assessment situations might be less engaging for teachers than active learning situations, but there is little to support such an assertion in the literature. The same study was cited authoritatively as referring to situation-specific teacher engagement (Corno & Anderman, 2015) but this switch of terminology from teacher self-efficacy to engagement is not explained or readily justifiable without further comparison of the construct of teacher self-efficacy to teacher engagement. Self-efficacy has also been considered a personal resource that affects work engagement as part of modeling that focuses on resources (Bermejo-Toro et al., 2015, p. 3).

   Spectrum with burnout? When an employee is burnt out, that employee exhibits high levels of emotional exhaustion and cynicism. Low levels of energy and pleasure are hallmarks of experiencing burnout (Bakker & Oerlemans, 2011, p. 188). Theorists debate whether burnout

is an emotional state distinct from work engagement or whether burnout and engagement are simply "two sides of the same coin" (e.g., Leiter & Maslach, 2010; Macey & Schneider, 2008). The Oldenburg Burnout Inventory (OLBI) found that an "identification" dimension of burnout is opposite of the dedication dimension often studied in engagement studies, whereas the energy dimensions of burnout (exhaustion) and engagement (vigor) operated as separate, but related dimensions (Klassen et al., 2013, p. 34).

Burnout is a widespread phenomenon affecting a major portion of the workforce (Maslach & Leiter, 1997, p. x; Roth et al., 2007, p. 763). When an employee is burnt out, dedication and enthusiasm for the job fades (Maslach & Leiter, 1997, p. 1). If burnout is the enemy of economic productivity, the opposite must be desirable. Focusing on a negative trait is not helpful for improving a workplace situation (Rupayana, 2008, p. 9). For Maslach & Leiter (1997) the desired opposite of burnout is engagement. Like Kahn (1990), Maslach & Leiter (1997) believe that an engaged workforce will lead to a more effective organization that is able to more excellently provide its product or service. The promotion of engagement is seen to be a long term project that leads to long-term gains, not only short term happiness or profits. Maslach & Leiter (1997) identify six factors that either lead to higher burnout or higher engagement depending on whether they increase exhaustion or sustain energy. Viewed in terms of building engagement, Maslach & Leiter's six factors are:

- Sustainable workload

- Feelings of choice and control

- Recognition and reward

- A sense of community

- Fairness, respect, and justice

- Meaningful and valued work

As noted in previous studies considering positive psychology (Clifton & Harter, 2003, p. 3), focusing on virtues is a more efficient way to effect change in individuals and organizations. Addressing burnout focuses energy on the negative side of a spectrum that is related to the more positive pole of work engagement (Leiter & Maslach, 2010, p. 165). Teachers have been shown to be less exhausted, or burnt out, when they are engaged in teaching tasks they perceive as interesting and meaningful (Roth et al., 2007, p. 763). Greater engagement could increase the ability of teachers to put up with momentary setbacks that might otherwise lead to a loss of vitality (Roth et al., 2007, p. 763). Similarly, teachers who are more highly engaged seem to experience engagement as a trait that prevents burnout (Bermejo-Toro et al., 2015, p. 16).

Change to promote engagement and decrease burnout requires effort on the part of both the employee and the employer (Salanova et al., 2005). Harmony must be created between people in their jobs and the jobs themselves (Maslach & Leiter, 1997, p. 149). Social support from colleagues and supervisors is an especially useful resource to consider when understanding teaching and burnout (Bermejo-Toro et al., 2015, p. 9). Engaged workers ask for performance feedback and help when they need that kind of social connection. Engagement becomes contagious as a social phenomenon that transfers the engaged worker's positivity and productivity to colleagues (Bakker & Oerlemans, 2011, p. 190). Particularly relevant to education is the suggestion that the challenge for building engagement is to do so in a way that creates meaningful change for employees without increasing administrative burden or corresponding expense.

From Work Engagement to Teacher Engagement

To be meaningful, the broad conceptualization of work engagement needs to be tested and validated across multiple industries including education (Salanova et al., 2005, p. 1225). Teacher engagement is a way of describing work engagement that is specific to teachers in a classroom setting. Teachers work in settings that are intentional about promoting student engagement in learning. Teaching is a profession that shares characteristics with other kinds of employment. However, teachers are called to very specific work that requires a high level of content knowledge, connection with children, flexibility, and (paradoxically) a rigid schedule that is not typically set by the employee.

Getting More Specific about Teachers and Teaching

There is little agreement on how teacher engagement, specifically, is to be conceptualized (Maslach & Leiter, 1997; Park, Lim, & Ju, 2016; Shernoff & Schmidt, 2008, p. 566). While work engagement has been widely discussed, there are fewer studies around what affects engagement the most in teachers. In a sense, experienced educators intuitively recognize an engaged teacher when they see one:

> … they may think about teachers who conveyed a sense of enthusiasm for the content they were teaching, cared deeply about the success of their students, extended themselves beyond what was minimally required, knew their subject area well but were never afraid to admit they could learn more, took pride in their work, and conveyed an infectious sense of confidence and optimism. (Rutter & Jacobson, 1986, p. 2)

While it may be possible to gain insight by observing what engaged teaching looks like, engagement is an internal, psychological state. Behaviors alone cannot manifest work engagement of teachers (Rutter & Jacobson, 1986, p. 5).

Maslach & Leiter (1997) suggest that the nature of the job, the characteristics of the organization and the workgroup, and the external factors affecting the organization lead to better outcomes. Conversely, external factors may be disastrous for engagement. For example, Maslach & Leiter hypothesize that for teachers, issues of reward – compensation – might be most important (1997, p. 150). In that study, teachers identify a lack of reward with rather intense feelings of burnout. One teacher reflected:

> I've been teaching for over twenty years, but I've lost my self-confidence. I can't keep doing this, I don't *want* to keep doing this, because I don't like the values of our society as I see them in the schools… If education isn't going to make a difference, then why have I been busting my buns? I just want to go somewhere else and have a life. So I'm just in a basic survival mode now. (Maslach & Leiter, 1997, p. 19)

In considering external factors, it is important to identify and analyze the largest challenge facing an organization. Hopefully, resolving that problem first has the most potential for impact. This approach focuses most on a macro organizational view. A practitioner might lose focus on an individual's own engagement in his or her work as a teacher. While individual teachers might indeed be organizational "shock absorbers for organizational strains" (Maslach & Leiter, 1997, p. 35), and collective perceptions are linked to individual burnout levels (Bermejo-Toro et al., 2015, p. 2), there is risk in acting as if all teachers are facing the same challenges. One macro-problem at a school site might not affect every teacher in the same way despite each employee being connected (Maslach & Leiter, 1997, p. 72). Perhaps issues around the quality of teacher's classroom (Hoglund, Klingle, & Hosan, 2015), job control, information, supervisory support, innovative climate, and social climate affect the work engagement of teachers (Bakker & Bal, 2010, p. 191) in very individualized ways.

An individual teacher may have an "off day." Organizational studies that examine work engagement as a relatively fixed trait are challenged to explain why even engaged employees have off-days (Bakker & Bal, 2010, p. 191). The ways teachers are affected by challenges on a daily or weekly basis are positively related to weekly work engagement (Bakker & Bal, 2010, p. 192). Yet it can be hypothesized that moments of being engaged in one's work have a positive, lagged effect on the following week's levels of job resources understood as personal psychological resources (Bakker & Bal, 2010, p. 193). In comparison with less engaged employees, engaged employees are better able to mobilize their own job and personal resources that, in turn, fuel future engagement (Bakker & Bal, 2010, p. 202).

Building from student engagement. Work engagement is related to the study of student engagement in learning theory (Bulger et al., 2008; Corno & Anderman, 2015). Reviews of student engagement (e.g., Christenson, Reschly, & Wylie, 2012; Fredricks, Blumenfeld, & Paris, 2004; Shernoff & Schmidt, 2008) discuss several ways to conceptualize student engagement. Student engagement can be discussed in terms as simple as the energy a student puts into his or her work (Rupayana, 2008, p. 4). More complex models delineate different characteristics of student engagement that are worth considering. According to a recent review (Fredricks et al., 2004), the three most widely used conceptualizations of engagement include:

- *Behavioral engagement* - positive conduct, effort, and participation in school-related activities based on teacher or direct observation;
- *Emotional engagement* – students' self-reported affective reactions in classrooms, including interest, boredom, happiness, and anxiety;
- *Cognitive engagement* - depth of processing and reported or observed ability to regulate one's investment in the learning process.

These conceptualizations are used in a number of articles (including Shernoff & Schmidt, 2008, p. 566). An alternative view is that behavior, emotion, and cognition should be fused under the idea of engagement "because it may provide a richer characterization of children than is possible in research on single components" (Fredricks et al., 2004, p. 61).

Studies related to student engagement should very carefully define what is meant by student engagement, especially since the term is used so frequently in the popular media and in conversation around education in general society. If researchers become very specific about what they are studying, the field may also come to a stronger consensus on the operationalization and measurement of student engagement (Fredricks & McColskey, 2012, p. 778).

Relationship of teacher engagement to student learning. Despite some unclarity about the student engagement construct, studies in education suggest that using positive psychology approaches, such as focusing on strengths, will lead to higher student engagement (Shernoff, 2013). While any of these conceptualizations can be reminiscent of work or teacher engagement, the relationship of the two constructs is not automatic. In particular, "success" for a student and "success" for a teacher look different. An engaged student is focused on goals that lead to learning and, eventually, graduation or similar milestones. An engaged teacher is immersed in his or her work over the course of a career. The goals for promoting student engagement and for promoting work engagement live in similar settings but are distinct.

Despite the uniqueness of both teacher engagement and student engagement, the shared educational setting makes it important to consider the interplay between the two concepts. It is suggested that a teacher who conveys disinterest, low commitment, and little enthusiasm for his or her work is likely to find students responding in kind (Rutter & Jacobson, 1986, p. 1). The application of positive psychological principles aims to promote teacher engagement. But the

same positive psychological principles also lead to gains in GPA, state hope and self-confidence,

and declines in absenteeism in students (Clifton & Harter, 2003, p. 119). Put another way,

interventions that radiate positivity are likely to have mutually beneficial effects on teacher

engagement and student engagement.

This becomes especially relevant if increasing teacher engagement leads to increased

student engagement and, ultimately, better outcomes around student learning. It has been

suggested that increased teacher engagement is correlated to increased student engagement

(Chen et al., 2008). If a trait is desirable for teachers, it could be desirable for students (Roth et

al., 2007, p. 763). When teachers are more autonomously motivated (Roth et al., 2007, p. 767),

their students feel more autonomous in their learning and their engagement. While the link

between teacher engagement and student learning is not an explicit research question in this

study, concern for student learning is at the heart of the teaching profession and is an implicit

goal of increasing teacher engagement. Perhaps, as the construct of teacher engagement

becomes better developed, researchers will be able to study the relationship between teacher

engagement and student learning more effectively.

Instructional practices and the effect on teacher engagement. Past studies do suggest

a relationship between types of instructional practices and student engagement that is striking

(DiBianca, 2000; Guthrie, Wigfield, & You, 2012; Rupayana, 2008; Shernoff et al., 2016;

Shernoff, 2013). Teachers have a unique role in creating conditions that support student

engagement as discussed above. Issues around the quality of a teacher's classroom (Hoglund et

al., 2015) impact engagement. Some studies have addressed these topics but gaining more clarity

about the relationship between teacher engagement, student engagement, and instructional

practices will benefit the field. Further research in understanding this relationship will become

increasingly valuable as technology innovations disrupt traditional and limited ways of

understanding lesson design, student engagement, and teaching (e.g., Hamilton, 2013a; Jaeger,

Bertot, Thompson, Katz, & DeCoster, 2012; Moore, 2012; Shernoff, 2013).

DiBianca's dissertation, *Teaching Adolescents: Relationships between features of*

instruction and student engagement in high school mathematics and science classrooms (2000)

is an important precursor for this study. Its third research question discusses the importance of

the enthusiasm that the teacher has for the day's instruction. In that study, teacher engagement is

influenced by the "structure of a lesson, the preparation involved, the dynamics between teacher

and student and the ongoing maintenance of energy required of the teacher to sustain

momentum" (DiBianca, 2000, p. 151). That study did find relationships between instructional

format and teacher engagement. Teachers were the most engaged when they were in charge:

"teachers reported the highest levels of engagement during *demonstration*, *discussion*, *review*

problems/questions and *lecture*." They were similarly alert and engaged during *student*

presentation and *computer work*. Teachers reported the lowest levels of engagement during

seatwork, *test/quiz*, and *video/film* formats (DiBianca, 2000, p. 152).

DiBianca (2000, p. 152) discovered an unfortunate disconnect between the promotion of

student engagement and data around teacher engagement and instructional formats. There was a

conflict in DiBianca's data between instructional formats that are teacher-paced and formats that

are student-paced. It turns out that everyone in education likes to be in charge of the activity at

hand: "teachers are like students: their engagement is higher when they are in control"

(DiBianca, 2000, p. 153). When teachers are more active in their lessons, student engagement

seems to decrease. Teachers and students even have difficulty agreeing about which classes are

the "most engaging" (DiBianca, 2000, p. 154). It is worth considering that the distance between

student and teacher perceptions narrowed in higher track classes (DiBianca, 2000, p. 155). This

finding is unclear, but perhaps there was a stronger social connection to teachers that led to

higher-track students being inspired by their highly engaged teachers in contrast with classrooms

of lower-level students (DiBianca, 2000, p. 162). Teachers and students were both least engaged

in lower level math classes (DiBianca, 2000, p. 161).

DiBianca's (2000, p. 159) results related to student engagement replicate the previous

findings in Stodolsky (1988). This leads naturally to a conclusion about how to raise student

engagement that is very compatible with the findings described above:

> …There is a competition for control, and thus engagement, in class between teachers and
>
> students. After all, the engagement of each was found to be higher when the format was
>
> of their own pacing. If student engagement is a goal, then instructional formats must be
>
> more student-paced. Thus, the challenge for teachers, as alluded to above, is a
>
> willingness to relinquish their teaching role as the "lord at the board" in favor of being
>
> the "guide at the side", whenever possible. (DiBianca, 2000, p. 163).

The finding that puzzles DiBianca is that, contrary to the previous literature explored

above, teacher engagement does not play a major determining role in student engagement (2000,

p. 164). This finding paradoxically suggests that perhaps teacher engagement and the needs of

teachers to be engaged should be *less* emphasized. In addition, teacher engagement levels were

skewed to the high end (DiBianca, 2000, p. 167) and DiBianca calls for future research to

address the validity of his findings. This leads to tantalizing questions that influenced the

selection of research questions for this study.

Further challenges to teacher engagement and instructional practice. As developed

by DiBianca (2000) in the discussion above, student-centered activities, where students are in

control, might not be the most engaging for teachers. Facilitating learning in ways that increase

student direction of learning challenges the traditional teacher's role. Teaching becomes more

like research supervision or mentoring (Harland, 2003, p. 264). In Harland (2003), a long-term

action research study, tutors started out scaffolding learning and then gradually withdrew from

the process until the learning was essentially handed over to the students. The study learned that

the teaching team's roles changed over time. The original conception of the teacher's role was

"helping students acquire new knowledge and skills" (Harland, 2003, p. 271). Gradually this

"expertise in subject knowledge" became "expertise in facilitating learning." As student

autonomy increased, the teachers came to a realization that the students no longer "asked for

help, and the teaching team no longer had their old roles and familiar student contact." The

implications for teacher engagement seem stark: "Paradoxically, we felt *some sense of loss*

[emphasis added] at this stage and concluded that a lot of pleasure in teaching had gone." The

teachers were really aware of this feeling "despite the fact that we could convince ourselves that

students were probably doing better without us" (Harland, 2003, p. 271). If teacher engagement

is, indeed, a critical framework for analyzing the experience of teachers, the implications of this

type of student-centered learning must be considered.

Measuring Teacher Engagement as a Static Trait (One-Time Surveys)

Considerable attention is being paid to how people experience their daily work in a range

of workplaces, including schools (Klassen et al., 2012, p. 318). Contemporary organizations

need employees who are psychologically connected to their work, who are willing and able to

invest themselves fully in their roles, and who are proactive and committed to high quality

performance standards (Bakker, Albrecht, & Leiter, 2011, p. 5). It is valuable for school leaders

and educational policymakers to understand how engaged their teachers are so that they can offer

appropriate guidance and promote effective change to prevent burnout and to promote positive

participation in the education of students. With engagement linked inversely to teacher attrition

from burnout and health related challenges (Klassen et al., 2012, p. 318), it is increasingly

important for schools to better understand the level of engagement among their teachers and to

develop ways to enhance teachers' work environments and effectiveness.

For teacher engagement to be understood, reliable and valid measures of engagement

must be available (Klassen et al., 2012, p. 318). Surveys are a relatively straightforward and

inexpensive way to measure how an organization is performing and to obtain information on

employees. Organizations need timely and accurate information if they are to propose

interventions that will be meaningful (Maslach & Leiter, 1997, p. 109). A meaningful

measurement instrument relies on the construct it is measuring being correct or useful (Macey &

Schneider, 2008, p. 26). One-time surveys excel at quantifying internal states between persons

as static traits.

Utrecht Work Engagement Scale (UWES). There are a number of practitioner-

developed measures of engagement that exist in the commercial domain but few have been

"road-tested" in peer-reviewed studies (Bakker et al., 2011, p. 9). One instrument that has been

extensively peer-reviewed is the Utrecht Work Engagement Scale (UWES). The UWES is the

most thoroughly utilized instrument for quantifying work engagement (Bakker et al., 2011, p. 9;

Corno & Anderman, 2015). Building from a positive psychology perspective, the UWES

conceptualizes work engagement as a positive construct with three dimensions: vigor,

dedication, and absorption (Seppälä et al., 2009, p. 460). Psychometric results confirm the

factorial validity of the UWES (Klassen et al., 2012; Schaufeli & Bakker, 2004, p. 8). One study

has raised questions about the utility of the UWES in countries where it has not been specifically

tested (Nerstad, Richardsen, & Martinussen, 2010, p. 327) but several studies in different countries (Christian & Slaughter, 2007; Schaufeli et al., 2006; Seppälä et al., 2009; Storm & Rothmann, 2007; Xanthopoulou et al., 2008) demonstrate its validity. The UWES has been used for measuring teacher engagement (e.g., Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007) but is not especially designed for teachers and there are questions about its appropriateness for studying teachers or work engagement generally across cultures (Klassen et al., 2012).

Originally, the UWES included 24 items with positively rephrased questions from an instrument that collected data on burnout, the MBI. Later, the instrument was shortened to 17 questions. Subsequently, an even shorter version of the UWES was developed (Schaufeli et al., 2006). The short form consists of nine items: three items measuring vigor, three items measuring dedication, and three items measuring absorption (Nerstad et al., 2010, p. 327). The UWES "consists of three scales that are highly correlated" (Christian & Slaughter, 2007; Schaufeli & Bakker, 2004, p. 8). Possible answers range on a 7-point scale from 0 or Never to 6 or Always/Everyday (Nerstad et al., 2010, p. 327; Schaufeli & Bakker, 2004, p. 43). Researchers utilizing the UWES now prefer the short form (UWES-9) as there are no downsides and indeed reliability may be higher (Nerstad et al., 2010, p. 332).

The psychometric properties of the UWES have been repeatedly validated in multiple continents and countries and occupations (Bakker et al., 2011; Seppälä et al., 2009, p. 460). The UWES suggests a definition of work engagement as a stable state of mind (Seppälä et al., 2009, p. 461). A worker is either "burnt out" or "engaged" or somewhere on a spectrum between those two extremes. Work engagement is, thus, considered to be a more stable trait than a mood. Work engagement is seen as a way of understanding an adult's happiness and well-being at work (Seppälä et al., 2009, p. 475). The UWES works for understanding engagement as a one-

dimensional or three-dimensional construct, depending on the research need but it is more practical to view work engagement as one construct (Seppälä et al., 2009, p. 476). As measured by the UWES, work engagement is a persistent and pervasive state of mind but not a personality trait (Seppälä et al., 2009, p. 477). In workplaces mindful of work-related happiness and positive well-being and positive psychology (Seppälä et al., 2009, p. 478) the UWES-9 stands out as a sound measure of work engagement (Seppälä et al., 2009, p. 479).

The UWES was designed as a general instrument to measure any profession. The authors of UWES-9 do not claim an understanding of how this instrument fares in evaluating different industries or professions (Seppälä et al., 2009, p. 478). However, when used to study particular professions and populations, it becomes possible to draw out information on how work engagement can be understand and utilized to better understand employees and their positive psychological development. For example, in a study of flight attendants that utilized UWES, it became evident that colleague support was an important job resource (Xanthopoulou et al., 2008). This particular type of employee, flight attendants, was chosen for specific reasons that are related to the nature of the profession. In the case of flight attendants, the designers of (Xanthopoulou et al., 2008, p. 347) hypothesized that the rapid and frequent creation of work teams (i.e., on a specific flight) would clarify the nature of colleague support. Colleague support might look very different for teachers, who tend to measure how long they have worked with a particular colleague in terms of years if not decades.

An instrument for teachers specifically: the Engaged Teachers Scale (ETS). There have been some attempts to measure teacher engagement in the past (e.g., Rutter & Jacobson, 1986, p. 9) that are now obscure in the literature or in practice. A very widely used scale for measuring work engagement, across professions, is the Utrecht Work Engagement Scale

(UWES) discussed above. Its strength is that it is well reviewed and a number of large-scale studies have provided validated data that aids researchers in analyzing work engagement (Corno & Anderman, 2015). However, this breadth also limits how the UWES can help answer questions related to the teaching profession and teaching engagement specifically. As the authors of the teacher-specific Engaged Teachers Scale (ETS) note:

> Existing engagement measures—such as the OLBI and UWES—have the advantage of measuring engagement in a broad variety of settings, but have not been created to examine engagement in specific contexts, like teaching. Creating a tailor made teacher engagement measure offers the advantage of including content that reflects the unique characteristics of teachers and the teaching context. (Klassen et al., 2013, p. 34)

Recently, a brief multidimensional scale of teacher engagement—the Engaged Teachers Scale (ETS)—was created with the intent of reflecting the particular characteristics of teachers' work in classrooms and schools (Corno & Anderman, 2015; Klassen et al., 2013, p. 33). Klassen, Yerdelen, & Durksen (2013) collected data from three separate samples of teachers and validated the ETS. The ETS was found to correlate positively with the UWES, the most widespread measure of work engagement to date. The authors of the ETS had originally intended for the UWES' factors of vigor, dedication, and absorption to be directly comparable to factors they identified as physical, cognitive, and emotional engagement. In multiple validation tests, physical and cognitive engagement items in the development of their survey did not produce separate factors. As a result, since cognitive items dominated the content, they labeled the factor *cognitive engagement* (Klassen et al., 2013, p. 6). The ETS was also validated against measures of self-efficacy.

The resulting scale is a 16-item, 4-factor scale of teacher engagement. The ETS ultimately consists of four factors: *cognitive engagement (CE)*, *emotional engagement (EE)*, s*ocial engagement: students (SEwS)*, and *social engagement: colleagues (SEC)*. A second-order *Teacher Engagement (TE)* factor can be calculated from these. In this study, this second-order Teacher Engagement (TE) factor is referred to as TE:Trait. The "item statistics and reliabilities of the ETS are very good, and the four factors represent appropriate measures of the internal structure of teacher engagement" (Klassen et al., 2013, p. 47).

The engaged teacher is socially connected. While most of these factors are known in other instruments, the ETS adds a consideration of social engagement with students as a key component of its conceptualization of overall engagement at work for teachers. Klassen et al. (2013) suggest that social engagement should be considered in studies related to work engagement. As Klassen et al. suggest, "although workers in many settings must engage socially with colleagues, teaching uniquely emphasized energy spent on the establishment of long-term, meaningful connections with the clients of the work environment (i.e., students) in a way that characterizes the job of teaching… teacher-student relationships may play *the* primary role in fostering student engagement and positive student outcomes" (Klassen et al., 2013, p. 35). This suggestion is supported by the research of DiBianca (2000). Teachers commonly attribute their relationships with students as an aspect of the profession that gives their work meaning. Teachers are called to foster and maintain close, positive relationships with students at different developmental stages (Corno & Anderman, 2015, p. 408).

Positive social interactions may lead to positive outcomes in the classroom with a direct relationship to student engagement (Corno & Anderman, 2015, p. 408). Purposefully including students in faculty work has been shown to promote student engagement (Chen et al., 2008).

Importantly, in an environment when the relationship between teachers and students is valued, there is an individualized and reciprocal nature to a caring relationship between teacher and student. The teacher and the student both have a role in establishing and maintaining a caring relationship (Corno & Anderman, 2015, p. 409).

Management interventions consider people within a social context and appreciate the value employees place on their interactions with others in the workplace (Leiter & Maslach, 2010, p. 165). Social connection between peers and supervisors can be considered a critical job resource that affects teacher engagement (Bermejo-Toro et al., 2015, p. 17; Schiff, Fund, Herzog, & Farley-Ripple, 2015).

Limitations of using a teacher-specific instrument. Bakker et al. (2011, p. 10) suggest that the UWES, OLBI, and the MBI "will best provide the core foundation from which any additional items, elaborations, or refinements should proceed." The ubiquity and popularity of the UWES made it tempting to use UWES for this study so that this study's data could be compared with a multitude of previous studies. While this is a strong reason to consider using the UWES, it is difficult for these generalized instruments to capture nuances and needs related to the teaching profession. For example, the UWES cannot capture anything about the relationship of teacher and student. Assertions made on the basis of the UWES may not lead to useful inferences for teachers or school leaders.

Measuring Engagement: Static or dynamic?

The debate of whether to measure teacher engagement as a personality trait or as a dynamic state is related to a long-standing line of inquiry in the field of personality psychology research. Traits and states are concepts that people use to describe and understand themselves and those around them (Chaplin, John, & Goldberg, 1988). Research in this field has explored

personality traits and longitudinal states (Borkenau & Ostendorf, 1998) connected to education

and teaching. For example, one recent study points to personality as an underlying core factor

influencing teacher performance (Buttner, Pijl, Bijstra, & van den Bosch, 2015). Other research

has shown a mediating effect of state-like individual differences on the relationship between

personality traits and learning outcomes (Chen, Gully, Whiteman, & Kilcullen, 2000).

Researchers in this field continue to explore ways to clarify the relationship between state and

trait concepts (Podsakoff, MacKenzie, & Podsakoff, 2016). The debate on whether to measure

teacher engagement as a personality trait or as a dynamic state is connected to this larger body of

personality literature.

Most existing instruments used to measure work engagement are one-time surveys.

There are strengths and weaknesses to the idea that work engagement can be measured at one

moment. As Bakker et al. (2011, p. 8) suggest, one of the key questions for further research in

work engagement is whether work engagement is an enduring trait that hardly changes over time

or a state that fluctuates over time. The importance of being clear about whether a study is

examining a "trait" or a "state" has been emphasized in the past (Clifton & Harter, 2003, p. 121)

and questions on this topic make academically measuring work engagement a large challenge

(Macey & Schneider, 2008, p. 5). Kahn (1990) conceptualized work engagement as something

that ebbs and flows over time, but engagement is most often conceptualized as a "persistent and

pervasive affective-cognitive state that is not focused on any particular object, event, individual,

or behavior" (Klassen et al., 2012; Schaufeli et al., 2006, p. 702). If work engagement is a

persistent and pervasive trait, it is better to study it using static one-time surveys.

As Klassen et al. suggest (Klassen et al., 2012, p. 319), more recent conceptualizations of

work engagement recognize that it is dynamic, not static, with fluctuations possible from day-to-

day and week-to-week and even from task-to-task in a way that static measures cannot capture (Corno & Anderman, 2015, p. 406; Sonnentag, 2011; Sonnentag, Dormann, & Demerouti, 2010). Sonnentag et al. (2010, p. 26) note that when engagement is considered by an individual employee as a recollection, it is possible that he or she might remember having experienced any of the three main characteristics of engagement: vigor, dedication, and absorption while never actually having experienced all three at the same time. There are days or weeks during which an employee feels more vigorous, absorbed, and dedicated. Both experience sampling and diary studies have shown that within-individual variations in state work engagement do exist (Bakker & Bal, 2010, p. 190; Sonnentag, 2003). There are methods, such as experience sampling, that yield rich data about teacher engagement in ways that can be linked to more subjective measures (Corno & Anderman, 2015, p. 406).

Asking an individual to provide retrospective reports over previous months or even years gives a window into his or her psychological state that ignores the dynamism of a person's psychological state (Sonnentag et al., 2010, p. 27). A richer examination would be able to look at engagement on a more day-to-day level allowing researchers to ask questions about the "proximal predictors" of work engagement (Bakker & Oerlemans, 2011; Sonnentag et al., 2010, p. 27). These may include person-specific states such as increased self-efficacy (Roth et al., 2007), autonomous motivation (Malmberg et al., 2014) or more specific schedule or other program changes that directly relate to a profession such as teaching. Being able to more closely identify the proximal situational and person-related predictors of work engagement could help leaders in organizations develop settings that will support work engagement when it is most important for that engagement to be present (Clifton & Harter, 2003, p. 116; Sonnentag et al., 2010, p. 27).

While there are short-term fluctuations in the experience of work engagement within one person (Bakker & Bal, 2010, p. 190; Bledow et al., 2011), this study has not identified any existing studies that highlight a potential relationship between classroom instructional design or lesson type and the fluctuations in state work engagement that teachers might experience. Sonnentag et al. (2010, p. 31) explore whether the type of job an employee is engaged in mediates how helpful coaching and other social resources are. That study further suggests that factors related to students might account for fluctuations in state work engagement for teachers. More consistently, engagement fluctuates in line with day-to-day events at organizations. Organizations and their leaders should consider the typical events their employees face in their work and how these events are messaged, interpreted, and managed (Bledow et al., 2011, p. 1255). The effect of daily events on state work engagement might be magnified in schools where so much of the work life of teachers is determined by a schedule and the kinds of learning activities happening within that schedule.

Fluctuations in work engagement may develop into a trend in a person's psychological state over time. Between person studies have been the traditional focus of research (Bakker & Bal, 2010, p. 189) but intra-person studies can shed light on how a teacher's engagement changes and how those changes affect his or her work (Xanthopoulou et al., 2008, p. 347). For example, Bakker & Bal (2010) consider teacher engagement on a weekly basis to ascertain how weekly job performance and availability of job resources are connected to teacher engagement. The same study seeks to understand why a certain employee — who is typically engaged — might experience an "off" week (Bakker & Bal, 2010, p. 190).

Research should utilize both between-person research and intra-person research to best understand multifaceted phenomena like work engagement (Xanthopoulou et al., 2008, p. 355).

Xanthopoulou et al. (2008) understand the need to differentiate "general work engagement" from "state work engagement" (p. 349). For that study, the authors utilized a modified subset of the UWES-17 scale to measure state work engagement and compared data to general work engagement gathered using the more frequently utilized UWES-9.

If work engagement is something that fluctuates, both the UWES and the ETS share some weaknesses. Learning is experienced in a particular situation and time. It is widely understood that different classes, subjects, and learning exercises affect engagement. The state character of work engagement's relationship to self-efficacy beliefs highlights how crucial it is to better understand fluctuations in employee engagement in order to correlate engagement to high performance (DiBianca, 2000, p. 3).

Rather than choosing sides in the controversy between conceptualizations of teacher engagement as a personal trait or as a dynamic state, the soundest approach might be to treat them as complementary and to measure engagement in both ways. Comparing and contrasting the results could be a fruitful activity in better understanding how teacher engagement is manifested. Both approaches "are necessary and provide unique perspectives" on the complex phenomenon of engagement (Sonnentag et al., 2010, p. 28). Several studies have undertaken this approach (e.g., Bledow et al., 2011; Sonnentag, 2003) and inspire the choices made in this study in Chapter 3.

Considering Diary Studies and Related Methods

In diary studies, employees are requested to fill in short questionnaires including state measures once or several times a day, for several days in a row (Bakker & Oerlemans, 2011, p. 17). Diaries represent a proper method to collect information about within-person experiences including work engagement (Bakker & Oerlemans, 2011, p. 17; Sonnentag et al., 2010, p. 28).

Quantitative diary studies represent a well-known way to collect data from teachers and have provided useful insight into the usefulness of evaluating work engagement as a dynamic construct (Bakker & Bal, 2010; Frenzel & Götz, 2007; Sonnentag et al., 2010). One weekly study has shown that substantial variability exists in job resources, work engagement, and performance. The findings revealed that a resource rich work environment fosters teachers' weekly work engagement (Bakker & Bal, 2010, p. 203). Another study utilizing diaries shows that teachers' emotional experiences are related to feelings of control around teaching success, feelings about class size, levels of student understanding, motivation, and discipline during lessons (Frenzel & Götz, 2007). In contrast to one-time surveys, diary studies rely less on retrospective recall and allow for consideration of causes and outcomes of changes in a person's state over a number of days (Bakker & Oerlemans, 2011).

Weaknesses of diary method. Advocates of Experience Sampling Method (ESM) suggest that the use of diaries still introduces retrospective bias that can be avoided by using ESM. While still less subject to bias than one-time surveys, ESM can yield more quantitative data. The sheer number of responses and the breadth of the data allows for less subjective statistical analysis than the data received in diary studies.

Another weakness of diary method is that reports may be contaminated by "significant evaluation apprehension" because subjects are likely to begin to focus on how they feel immediately prior to the next scheduled report. Similarly, participants might begin anticipating how they will craft their responses to diary submissions (Kubey, Larson, & Csikszentmihalyi, 1996, p. 105). There is perceived preference for ESM because of the novelty of technology tools for recording experiences over traditional diary methods (Carson, Weiss, & Templin, 2010, p. 173).

Day Reconstruction Method (DRM). The day reconstruction method is a useful and innovative way to capture how employees experience their jobs from moment to moment as reflected in the positive and negative feelings that accompany their daily activities. DRM combines elements of experience sampling and time diaries and is designed "specifically to facilitate accurate emotional recall" (Bakker & Oerlemans, 2011, p. 185). This seems to be a combining of the strengths of the diary method with ESM and may provide qualitative advantages to purely quantitative ESM work. However, DRM is "subject to all the biases" of the diary method (Hektner et al., 2007, p. 277). Something might seem true to a respondent, retrospectively, that might not be representative of the state of mind at the time of the event being measured or discussed. The DRM does allow for more recording of within-person fluctuation (Bakker & Oerlemans, 2011, p. 21) than a one-time survey such as the UWES or ETS.

Ecological Momentary Assessment. The Ecological Momentary Assessment (EMA) is described as an effective approach for capturing teachers' emotional states and behaviors over time (Carson et al., 2010). Teachers and researchers alike believe that garnering data about a teacher's state in the midst of a day is more reliable than traditional retrospective studies (Carson et al., 2010, p. 166). This methodological approach is largely similar to ESM more generally defined but is oriented towards teachers and the challenges for participation that face teachers in school settings.

Experience Sampling Method (ESM)

Teachers spend an incredible amount of time on work-related activities. Estimates in the United States suggest that professional workers spend more than forty hours a week at work (Schneider, 2011). Stress, anger, and happiness fluctuate as conditions change (Schneider,

2011). But how can these fluctuations be quantified? Experience Sampling Method (ESM)

allows a researcher to quantify the inner experience of a person over time. Obtaining repeated

measures of positive and negative emotions over time "makes it possible to estimate an

individual's overall subjective emotion, as well as identifying those instances when that emotion,

like stress, anger, or happiness increases or decreases" (Schneider, 2011, p. 5).

Advantages over diary method. ESM and diary studies are used to study similar

phenomena. A diary's reflection on how long a worker spends at work has been found to be

relatively accurate. However, ESM is more accurate at quantifying the quality of work or the

amount of time a particular task takes (Hektner et al., 2007, pp. 184-185). If work engagement

fluctuates with time in a temporary, transient way, it is important to be able to record and

represent the daily ebb and flow of that experience (Macey & Schneider, 2008, p. 13). ESM

excels in recording fluctuations in experience in real time.

Reliability and validity of dynamic measures. Time anchors (e.g., "a few times a

month") on the UWES and other validated tools such as the ETS do not fit with a reporting

schedule that is daily or even more frequent (Bakker et al., 2011, p. 10). While it is certainly

possible to make changes to existing measures to explicitly refer to a different frame of reference

(e.g., Bledow et al., 2011), by changing questions to reflect on a limited time frame, e.g.,

"today," such an approach is not without problems (Sonnentag et al., 2010, p. 29). More

research is needed to clarify whether simply re-writing survey questions is a valid approach

(Bakker & Oerlemans, 2011; Carson et al., 2010). The content and factorial validity and

reliability of modified one-time trait work engagement scales needs to be proven (Sonnentag et

al., 2010, p. 29). As Sonnentag et al. note (2010, p. 29), "people may have different experiences

on a certain day than over a longer-term time frame; for instance, they can be enthusiastic about a specific work task (daily basis) but not about their work tasks in general (longer-term)."

   Why measure multiple times a day. Sonnentag et al. (2010, p. 29) suggest that, ideally, work engagement and its predictors and consequences should be assessed at different points in time during each day; and when analyzing such data, the work engagement level of the previous measurement occasion should be used as a control variable. The frequency of reports throughout the day increases the accuracy and specificity of data related to a person's emotions and allows for identification of possible causes (Schneider, 2011). Measuring work engagement in real time diminishes recall error and contamination by the latest challenge or success that the teacher faced (Carson et al., 2010, p. 166). Further, psychological states can be measured and correlated to the moments in which they occurred. Stimuli can be discussed in a more proximate way than a daily or weekly retrospection (Carson et al., 2010; Corno & Anderman, 2015, p. 406).

   Problems with interrupting a class. ESM is a popular method for measuring the psychological experience of flow. Flow studies are particularly effective when they are designed to interrupt participants at random and frequent intervals. An abundance of data is produced that can be considered as representative of a participant's state as it changes through time during a study. In comparison to methods that create data by relying on interviews of past moments (Zhu, 2001, p. 28), the frequent interruptions of experience sampling give a richer picture of the experience being studied.

   While ESM-derived data is especially valid when participants are frequently interrupted, the random nature of the interruption ends up interrupting the very state that experience sampling purports to study (Rupayana, 2008, p. 8). As with flow, engagement requires a kind of focus that normally should not be interrupted. A teacher being interrupted in the midst of a positive,

engaged experience may decide to postpone responding or simply not respond to the signal to complete the survey. The burden on teachers can lead to challenges in study participants following through with the requirements of an ESM study (Carson et al., 2010, p. 167).

       Design of ESM form. The search for a "standard" ESM form (ESF) is intentionally elusive. ESM is flexible and the items can vary a lot (DiBianca, 2000; Hektner et al., 2007, p. 43). This empowers researchers to be cognizant of the milieus in which the behaviors and phenomena they wish to study (Kubey et al., 1996) and revise accordingly (Zhu, 2001). ESM is capable of capturing data related to both *external* and *internal* dimensions of experience (Hektner et al., 2007, p. 43). As described in Hektner et al. (2007, pp. 43-44), external coordinates are somewhat standard across ESM forms. Participants are asked the date and time they were signaled and the date and time that they responded to the signal (though these questions can be omitted in this study given the capabilities of contemporary digital systems). Participants are typically asked about their location when they were signaled. Crucially, participants are asked about their activity at the time of the signal. The typical question is, "As you were beeped what was the main thing you were doing?" The fourth component of external experience captured in ESM is "Who were you with?" Companionship can yield useful insights into how a person's experience is shaped by proximity to others.

       ESM is particularly suited for measuring the dimension of internal experience. As described in Hektner et al. (2007, pp. 44-45), some studies simply ask for the participant to respond to an open-ended prompt. This allows a study to "fill in the gaps" in reporting by asking a more open-ended question, such as "Did you feel a strong emotion since the last report?" or "What did you feel and what made you feel that way?" (Schneider & Waite, 2005). More commonly, studies rely on rating scales to record internal dimensions of experience. These

rating scale items are sometimes combined in analyses to form composite measures or constructs.

For example, the psychological concept of "flow" has been operationalized using two items on ESM forms. One item asks individuals to rate the "challenges of the activity" and the other asks the respondent to rate "your skills in the activity." A flow variable is typically operationalized by identifying those moments when an individual rates both the challenges and his or her skills (as related to that activity) as high and in balance. These two indicators define the conditions in which flow is likely to occur (Hektner et al., 2007, pp. 46-47). Flow is seen as being more specific to a particular activity than engagement (Rupayana, 2008, p. 1).

Previous studies utilizing one-time and experience sampling methods. Studies utilizing the Experience Sampling Method (ESM) can be tailored to setting of the study and are most effective when designed to help researchers answer clear research questions. Previous studies, especially studies of educational settings, can provide a rich array of data relevant to the school setting.

These studies are particularly illuminating if they use multiple methods, including ESM, to better understand the phenomena being studied. The value of ESM is magnified when it is used in conjunction with other methods and tools to garner information on the school setting (Hektner et al., 2007, p. 229). This literature review seeks to clarify the specific role of experience sampling in the design of research studies that will make a difference in the classroom. A selection of previous studies related to the Experience Sampling Method will clarify the ways in which the ESM is helpful and will demonstrate the value of utilizing ESM to enrich the present study.

In *The Affective Shift Model of Work Engagement* (Bledow et al., 2011), the authors sought to move toward a dynamic account of work engagement by examining its link to external affective events and to internal mood sates. Positive emotions are important for work engagement (Sonnentag et al., 2010, p. 31) as exemplified by this experience sampling study with 55 software developers (Bledow et al., 2011). Study participants completed a web-based survey twice a day over a period of nine working days. State positive emotions, but not state negative emotions predicted state work engagement. Data collection was divided into two parts. First, participants filled out a "general questionnaire to measure dispositional positive and negative affectivity and demographic variables". The second method utilized Experience Sampling Method (ESM). Participants "repeatedly reported on work events, positive and negative mood, and momentary work engagement." This survey was web-based and administered twice a day over a period of 9 working days. As discussed elsewhere in the present study, compliance was a large concern for the researchers so they strove to "use short and efficient measures." Because of this, "the scales for the experience sampling survey were shortened compared with their original form" (Bledow et al., 2011, p. 1249).

Of importance to the present researcher's study design, the short five-item state measure of work engagement was validated by administering 15 items of the UWES at the beginning of the study. The 15 items asked employees about their general level of work engagement (Bledow et al., 2011, pp. 1249-1250). This validation process confirms the design of the present study in that the Engaged Teachers Scale (ETS) is to be administered at the beginning of this study with the Experience Sampling Method (ESM) serving as a complementary method of examining teacher engagement.

In *Recovery, work engagement, and proactive behavior: A new look at the interface between nonwork and work* (Sonnentag, 2003), the long-form UWES-16 initially measured person-level trait engagement. The study then followed up with a daily survey that featured an adaptation of the UWES. At the end of each work day before leaving the workplace, participants indicated their level of work engagement during the past work day in relation to last day (Sonnentag, 2003, p. 521). While this is not an example of true ESM, it is helpful to examine studies that attempted to measure work engagement both as a static person-level trait and as a dynamic state and suggests that the design of the present study is appropriate in attempting to discern both trait and state understandings of teacher engagement.

In *Teachers' Situation-Specific Mastery Experiences: Teacher, Student Group and Lesson Effects*, situation-specific measures of mastery experiences are proposed as self-evaluation of success (or failure) in creating optimal learning environments for students (Malmberg et al., 2014). Following intra-person research in other research fields (e.g., Carson et al., 2010) the variability of this construct was investigated across lessons of the same group, between different student groups of the same teacher, and between teachers (Malmberg et al., 2014, p. 431). Like the two studies described above, the fifty-two teachers who participated in this study signed consent forms and filled questionnaires that complemented the main method of the study, the electronic lesson questionnaire on a PDA (Malmberg et al., 2014, p. 434). The use of multiple methods in this study combined the strengths of longitudinal data collection with the PDA and the clarity of the surveys first administered to the group. As with several other studies considered in this literature review, Malmberg and Webster suggest that "future studies would need to consider the trade-off between the numbers of items per construct in each situation-specific construct and the time it takes for completing the questionnaire each time."

Limitations to Teachers Self-Reporting

Existing instruments that measure teacher engagement rely on teacher self-reporting. While observing teachers does support faculty professional growth (Hamilton, 2013b), and subjective judgments of a teacher's engagement might be made in observation, this literature review did not locate any studies on measuring teacher engagement through observation. Indeed, as a construct describing a state-of-mind, it seems unlikely that such a method would be viable. Emerging technologies such as mobile eye trackers (Corno & Anderman, 2015, p. 406) are intriguing but beyond the scope of this study. Relatedly, biometric measures have suggested the validity of ESM studies in the past (e.g., Schneider, 2011).

Self-reported measures of teacher engagement have not been correlated, in quantitative ways, to positive student attributes "or even with indicators of desirable teacher behavior that are not based on teachers' self-reports" (Roth et al., 2007, p. 761). This study seeks to capture real-life fluctuations in the classroom (Corno & Anderman, 2015, p. 406) with experience sampling and diary approaches. It is hoped that using these time-sensitive measures in conjunction with the Engaged Teachers Scale (ETS) will yield results less subject to bias than simple self-reported measures.

Leadership Theory and the Impact of Leaders on Teachers

The importance of teacher engagement suggests that leaders should pay attention to this construct and that leaders themselves should consider their work and how their interactions with teachers affect teacher engagement. The level or quality of interaction with school administrators impacts a teacher's engagement in ways that require continued discussion and further study. The work of the Gallup Organization found that employee perceptions of their organizational leaders and the future of the organization was significantly more positive if the

employees felt that the leadership of the organization was focused on growing employee

strengths (Clifton & Harter, 2003, p. 123). Teacher beliefs and emotions are influenced by

interactions with colleagues (Corno & Anderman, 2015).

Management interventions consider people within a social context and appreciate the

value employees place on their interactions with others in the workplace (Leiter & Maslach,

2010, p. 165). Social connection between peers and supervisors can be considered a critical job

resource that affects teacher engagement (Bermejo-Toro et al., 2015, p. 17; Schiff et al., 2015).

Administrators and other leaders can better support the experience of teachers in the classroom.

Researchers and practitioners should better consider engagement or similar constructs in

promoting teaching and learning in classrooms (Zhu, 2001, p. 109).

Challenges facing school leaders. Challenges faced by education (e.g., McNair et al.,

2011) and the importance of education in the creation of the elite (e.g., Gaztambide-Fernandez,

2009) prompt all educators and leaders to consider how leadership impacts teachers. While

some of the articles reviewed favor a transformational approach to leadership (e.g., Welch, 2000)

there is diversity in approaches to educational leadership that is relatable to general societal

trends. Ready & Conger (2003) provide a caution about following trends, but leadership

challenges discussed in the reviewed literature are indeed portrayed as being significant and

widespread in society (e.g., McNair et al., 2011; Russell & Feldman, 2003). There is an

opportunity for leaders to positively influence teaching and learning by being conscientious

about how they are affecting the internal states of teachers (Zhu, 2001, p. 123).

Often the needs in educational leadership are discussed using the language of the

leadership skills approach posited by Katz (1974) that focuses on the development of leadership

skills. In discussing what preparation a college president might have, respondents to one survey

on leadership gave responses such as "I wish I had more training in human resource management" (McNair et al., 2011, p. 12). Another article focused on positivity among a checklist of to-do items for a college president (Puglisi, 2011). Courses for undergraduates discuss leadership skill (Welch, 2000). Elite leaders in related fields also see competencies as the key framework to enhance leadership (Russell & Feldman, 2003).

Towards teacher engagement. A leader can have a lot on his or her mind. Organization vision, strategic priorities, managing his or her personal finances, making the latest sale, or writing a new blog post might be on the leader's agenda. The pressure for leaders in education to "get results" (Goleman, 2000, p. 2) might cloud priorities. However, in a school, teachers are the people most directly responsible for instruction and for promoting learning by students. Teachers drive the entire purpose of schools. The importance of teachers in institutions of teaching and learning make it critical that the leader show leadership in the teacher community. Teachers and leaders are "inextricably bound together in the transformation process" (Northouse, 2004, p. 170). Engagement can be promoted in organizations by promoting a culture that values learning and promotes "upward spirals" of excellence in classrooms led by high-performing teachers (Lee, Caza, Edmondson, & Thomke, 2003, p. 196).

Understanding the organization. Understanding the environment in which a leader operates is a requirement of any change or leadership process. As noted by Schmieder-Ramirez & McManus (2007, p. 2), "theoretical frameworks are important because they help us to organize our thoughts." It is important to know the current state of an organization before recommending change for the future (Schmieder-Ramirez & Mallette, 2007, p. 157). Several models are available to practitioners. The SPELIT model focuses on the understanding of one's own strengths and one's role in an organization. Other models frequently used include doing a

SWOT analysis (strengths, weaknesses, opportunities, and threats). Being explicit about which framework is being used hastens the reflection process while simultaneously positively affecting quality. The environment of any organization needs to be constantly examined for changes and regularly reassessment is critical.

Modeling. In the context of a study that is considering engagement in the workplace, it is notable that fewer than 10% of high achievers are happy (Caesar & Caesar, 2006, p. xiii). School leaders are entrusted with and responsible for *children*. In order to effectively develop positive qualities such as engagement, growth mindset, or reality-based self-esteem in them (Branden, 1995, p. 204), leaders will want to raise the happiness and self-esteem of the teachers and workers of the school (Branden, 1995, p. 211). People are attracted to a purpose and to those who have a purpose (Caesar & Caesar, 2006, p. 31). The effective leader must exhibit this kind of purposefulness in his or her leadership. A leader creates a vision and enrolls others in it (Caesar & Caesar, 2006, p. 43). Modeling is a particularly powerful way to visibly establish appropriate power (Russell & Stone, 2002, p. 149). It is critical for influence to be exercised in non-manipulative ways. In a bad situation, nobody will stay a follower unless he or she makes a conscious choice *not* to do the "prudent thing." and move on (Russell & Stone, 2002, p. 150). The allegiance of the follower is freely and knowingly granted – or not (Greenleaf, 2002, p. 10). Showing concern for the healing of others is likely to be a primary work of the school leader who is interested in raising engagement levels at the workplace. This kind of social interaction models a culture where learning happens at all levels and helps form a positive "community of practice" (Schmieder-Ramirez & McManus, 2007, p. xvi).

Utilizing multiple leadership styles. For the leader to be most effective, he or she should exhibit multiple styles of leadership depending on the situation occurring at work

(Goleman, 2000, p. 11; Robbins & Judge, 2011). If a leadership style is not working in a particular situation, the leader should replace that strategy with another that does perform in that situation (Goleman, 2000, p. 9). This does not mean that one leadership style is "correct" and another one "incorrect." Reflecting on a particular mode of leadership changes the emphasis of a leader's work without negating the applicability of other approaches (Bryman, 1999, p. 27). For example, a pacesetting style might be effective while a leader is attempting to show the way for his teachers. While the "do as I do, now" style can be useful initially (Goleman, 2000, p. 8), long-term success as a leader requires the use of multiple styles or risk the high turnover in human resources that is characteristic of this style. Pacesetting can work, but it should "never be used by itself" (Goleman, 2000, p. 10).

        Leading by serving. Without diminishing the value of assessing a situation and choosing a most effective leadership style, the nature of educational institutions presents patterns that make the "Servant Leadership" (Greenleaf, 2002) framework of leadership particularly valuable for leaders contemplating ways to increase the engagement of employees in the school workforce. The role of a leader in today's innovative schools revolves around supporting the teachers who are directly facilitating learning in the classroom. Teachers and administrators are lifelong adult learners and they need to be approached with a set of principles that are specific to adults (as described in Knowles, Holton, & Swanson, 2011). The learner's need to know, prior experience, and motivation are crucial. School leaders work to give teachers more resources to encourage critical thinking, inspire, and facilitate learning. By appreciating each adult individually, the leader approaches a teacher as someone who can provide service to that teacher rather than as an "authority."

The leader aspires to be a servant first (Greenleaf, 2002) by listening to the adults around them. This purposeful listening to teachers and focus on them forms the basis of thoughtful conversations that build teacher engagement. Put another way, the leader's focus is on the followers. In contrast, a "transformational" leader's focus is directed towards his or her organization and the building up of follower commitment towards organizational objectives (Bass, 1996; Welch, 2000). The servant leader's focus is on the followers themselves. While the differences between the overarching transformational leadership theory and the servant-leader approach seem to be questions of focus (Stone, Russell, & Patterson, 2004), the difference in these two styles manifests itself in the care taken by the leader to make sure that highest priority needs of the teachers are being served.

The best test for the effectiveness of the servant leader's efforts is this line of questioning: do those served grow as persons? Do they, while being served, become healthier, wiser, freer, more autonomous, more likely themselves to become servants? (Greenleaf, 2002, pp. 351-354). This kind of testing is difficult to administer (Greenleaf, 2002) but might be connected to instruments used to measure related questions such as "how engaged is this teacher?" Purposefully leading as a servant, first, should reap benefits to the individuals involved in a teaching community.

If increasing teacher engagement over time is the desired goal, effectiveness over time should be valued by leaders. Quick fixes will not be effective (Autry, 2004, p. 116). Regular communication with teachers as well as involving school faculties and individual teachers in genuine and significant decision making will serve leaders well (Berger, 2003, p. 150). Focusing on the follower, the teacher, is also the hallmark of other theories (e.g., Maccoby, 2004; Park et al., 2016) but servant leadership is particularly operationalizable.

Operationalizing servant leadership. Focusing on the core tenets of servant leadership is not an attempt to avoid the challenges that face all managers (Autry, 2004, p. 38). The hard work of being a leader and manager of a complex school requires an attention to detail and not simply a gaze at the big picture. The leader should focus on genuine empowerment (Russell & Stone, 2002, p. 152). Servant leadership requires clear, fair standards and procedures (Autry, 2004, p. 59).

Blending with other tactics. The emphasis on standards and procedures can be paired with other traits and styles of leadership. For example, a leader might seek to maximize results in others by connecting followers to a shared sense of past and context. The principles of situational leadership (Hersey & Blanchard, 1969), broadly understood, can help a leader put servant leadership principles into daily practice by providing concrete patterns to follow in analyzing how to manage particular individuals uniquely.

Congruity. One reason that servant leadership is such an appropriate framework for school leadership is that the focus of the leader is on the other person and the quality of the relationship with students and colleagues (e.g., Berger, 2003, p. 102). Practicing congruity in relationships and communications will promote the motivation or engagement teachers have for, and in, their positions. As Howard Behar notes in his forward to Autry's book, "you can't separate the way you behave when you're communicating with your spouse from the way you communicate with your co-workers or boss" (Autry, 2004, p. XIV). Leaders should strive to create an ethic that honors good work by its quality and not simply by volume (Autry, 2004, p. 79). Even though times in education are perennially tough, short-term cost cutting measures cannot be the sole answer especially if they require "sacrificing our values on the altar of crisis" (Autry, 2004, p. 222).

Leadership, learning, and questions around equity. In public K-12 education, especially of pupils in underprivileged communities, effective leadership is recognized as a primary issue among education reform efforts. The implementation of charter schools, new policies such as longer school days or calendars, and evaluations systems exist to ensure that all children receive a quality education. Initially, little attention was paid to the role of the school's leadership in impacting the success of a child. Now "school systems around the globe are focusing on student achievement [by] empowering school leaders" (Gamage, Adams, & McCormack, 2009, p. 1).

Cotton (2003) asserts there are five behaviors that leaders need in order to have an impact on student achievement:

1. an establishment of clear focus on student learning by having a vision, clear learning goals, and high expectations for learning;

2. interactions and cordial relationships with relevant stakeholders and emotional and interpersonal support;

3. developing a culture conducive to teaching and learning through shared leadership and decision-making;

4. providing instructional leadership through discussion in instructional issues observing classroom teaching and giving feedback;

5. being accountable for affecting and supporting continuous improvements through monitoring progress using data for program improvements.

Administrators and teachers must coordinate their activities and work together in order to promote positive student outcomes. For example, Quinn (2002, p. 452) conducted a study that

sought to understand how principals collaborate with teachers with a view towards student engagement.

      Relationship of teacher engagement and interactions with leaders. While difficult, the organizational leader could foster increased meaningfulness at work for workers by first appreciating the issues facing his or her workers in attaining psychological success and setting an organizational tone accordingly. It is not altogether negative for a leader to be opportunistic about his or her interactions with teachers (Northouse, 2004, p. 72) especially if it can be shown that these interactions really do increase teacher engagement. But that opportunistic leader should strive to be a positive force in the organization that can help "emphasize ideals, inspiration, innovations, and individual concerns" (Northouse, 2004, p. 188).

      When administrators have thoughtful conversations or interactions with teachers, they are practicing a form of empathy. It is critical for the leader to see what is happening in a school from the teacher's point of view (Scudder, Patterson, & Mitchell, 2012). The teacher's view of reality might be affected by "scars" from previous interactions with leaders that had outcomes that were less than positive (Northouse, 2004, p. 280). The value of empathetic conversations is based on the idea that "organizations, and the individuals within them, have an inherent capability to generate the new knowledge needed to ensure organizational success" (Lee et al., 2003, p. 194). Interactions of leaders with teachers should be purposeful and could utilize a coaching style (Goleman, 1999) to have the highest chance of leading to a stronger mindset.

Implications of Literature Review

      The creation of the Engaged Teachers Scale (ETS) promises to help unlock the psychological processes that inform effective teaching. Previous measures of work engagement such as the Utrecht Work Engagement Scale (UWES) measured work engagement and allowed

for comparison between settings and professions but were not tuned to the particularities of the

classroom and school environment that teachers work in. In particular, the ETS adds a

dimension of social interactions shared by teachers and students (Klassen et al., 2013, p. 49).

One connection between teachers and students that must bear directly on the workday is

the kind of classroom that the teacher and the student both find themselves in. What is the

connection between developing teaching strategies that build student engagement and the

engagement of those selfsame teachers? Some of the literature on this topic has led to results for

teacher engagement that raise questions about raising both student engagement and teacher

engagement (see, for example, the discussion above about DiBianca, 2000).

The Engaged Teachers Scale (ETS) also adds a factor related to teacher engagement with

colleagues. This social factor of teacher engagement might at first be overlooked. However, a

full review of the literature shows how much many workers rely on their workplace for social

interaction (as just one example, discussed above, see Csikszentmihalyi, 1997). This leads to

questions about the role that a particular type of colleague, the leader, has in developing teacher

engagement. This literature review has discussed different leadership styles that are most

appropriate in a school setting through the lens of how the leader is impacting the teacher.

Besides tantalizing suggestions that leaders impact teacher engagement in the literature discussed

above, little research has directly connected the impact of the leader's interactions with the

teacher on the teacher's engagement.

While researchers have better tools available to conceptualize and measure teacher

engagement, more work has to be done to fully measure how teacher engagement changes over

time (Klassen et al., 2013). Self-reports of engagement are helpful but correlating self-reports to

real behaviors in the classroom is a future step that must be taken.

The specific problems brought up in Chapter One of this study have not been adequately studied as has been demonstrated in Chapter Two of this study. Given the new availability of the Engaged Teachers Scale (ETS) and the usefulness of Experience Sampling Method (ESM) to gain insight into the internal state of teachers over time, it is an appropriate juncture to research the questions raised by the present study.

Chapter 3. Methodology and Procedures

This chapter describes the research design and methods for analyzing data that will be used to answer six important research questions about teacher engagement:

1. What are the trait and state teacher engagement characteristics for grade 4-8 teachers at a small independent school?

2. To what extent is there a relationship between a teacher's engagement when measured as a static trait and that teacher's engagement when measured as a dynamic state?

3. To what extent is there a relationship between a teacher's engagement and that teacher's social interactions with students?

4. To what extent is there a relationship between a teacher's engagement and that teacher's interactions with his or her school administrators?

5. To what extent is there a relationship between a teacher's engagement and the mean number of different instructional formats used in each class period?

6. To what extent is there a relationship between a teacher's engagement and the percentage of time that the teacher uses each of the 13 instructional formats?

To begin answering these questions, collecting data directly from teachers about their experiences in classrooms will be particularly effective (DiBianca, 2000, p. 56).

Research Design and Rationale

The work life of teachers is nuanced and complex. No single survey instrument could hope to capture all aspects of a teacher's work or inner thoughts about his or her work. Instead, a thoughtful combination of multiple methodologies has the opportunity to reveal creative and increasingly valid understandings of teachers and their work (Corno & Anderman, 2015). In

order to have the best opportunity to examine teacher engagement, this quantitative, non-experimental, and descriptive study will examine, via two cross-sectional survey instruments, the degree of teacher engagement level and the context that teachers find themselves in: the classroom.

A multimethod approach that utilizes the Experience Sampling Method (ESM) and a complementary one-time survey, the Engaged Teachers Scale (ETS), gave this study an opportunity to compare participants' responses from the two instruments. This led to stronger research (Fredricks & McColskey, 2012, p. 779; Hektner et al., 2007, p. 110). The ETS is an example of the most common method of measuring engagement: a single-use survey. Single-use surveys are easy to administer and analyze but might not capture data on the dynamic and interactive nature of engagement (Fredricks & McColskey, 2012, p. 779). A teacher could be more engaged at one moment than another. Colloquially, every teacher has good days and bad days. In contrast, the Experience Sampling Method (ESM) can track fluctuations in engagement over time (Fredricks & McColskey, 2012, p. 779). Experience sampling promises a rich data set tracking teacher engagement. It also allows for consideration of the classroom activities and instructional practices taking place (DiBianca, 2000; Hektner et al., 2007, p. 33).

It is normative when using an experience sampling form to ask questions about demographic data using a separate survey at the beginning of the study (Hektner et al., 2007, p. 76; Kubey et al., 1996, p. 103). Ideally, demographic data would be comparable to data collected in Klassen et al. (2013) to allow for further comparison with that study and future studies utilizing the Engaged Teachers Scale (ETS). However, this limited study intentionally omitted this step to maximally protect participants by making identification of participants as unlikely as possible.

Phenomena Investigated

This study focused on the phenomenon of teacher engagement. It considered four aspects of work engagement that are understood as being traits of a teacher: cognitive engagement, emotional engagement, social engagement with students, and social engagement with colleagues (Klassen et al., 2013, p. 49). This study also collected data on the kinds of instruction taking place in participants' classrooms. It also sought to understand how these different instructional activities are related to teacher engagement (as in an earlier study, DiBianca, 2000). The study also sought to better understand the phenomenon of teacher engagement as it relates to interactions with school administrators.

This study measured teacher engagement in two ways: (a) as a personal trait (using the Engaged Teachers Scale or ETS administered once); (b) as a state that may change over time (using an Experience Sampling Method form or ESF multiple times over the course of a work week) along with variables on instructional format and the level of interaction with an administrator.

A cross-sectional survey, the Engaged Teachers Scale (ETS), was used to collect data at a single point in time during the academic year. This survey was administered to all participants at the same time: a typical 3:30 PM Monday faculty meeting. The ETS was administered online using a form generated in Qualtrics. Qualtrics is a professional platform licensed by Pepperdine University for the use of its students and faculty to perform survey research. The URL for the one-time Engaged Teachers Scale form was e-mailed to all eligible participants from the Qualtrics software during the faculty meeting.

Beginning the following day of that same week, at specified intervals — at the conclusion of class periods — an experience sampling form (ESF) was administered for one full

class week. This period of five days began on a Tuesday and ended the following Monday. The

ESF is adapted from DiBianca (2000), which is itself a modified version of the survey form used

by Csikszentmihalyi and Larson (1984) in their work on adolescent life. It consisted of a number

of items to which students and teachers respond by selecting from a closed set of responses.

Additional modifications pertaining to classroom and instructional features were adapted from

Stodolsky's (1988) study on subject matter.

To obtain the highest participation rate, the ESF was administered using Qualtrics with a

multiple-use URL e-mailed to participants at regular intervals. Participants were able to use any

of the e-mails they had received to begin the survey instance. Further configuration of

participants' devices was done to ensure that the delivery of the form was interruptive and

noticeable, akin to a pager.

Population and Participants

This study sought to examine the population of teachers, who instruct more than two

hundred students in grades 4-8, at Cascade School. This single population was studied using a

census. The teachers that make up this population range in age from 23 – 72. As teachers at an

"elite" school, the population is relatively educated: all members of the population possess

bachelor's degrees; many have master's degrees and/or are professionally credentialed.

Approximately two thirds of the population is women.

The study's census was obtained by using the official employee-teacher list at the school

as of January 1. Given the small size of the population (41) the study attempted to census the

population. The minimum number of required participants is 35 with a confidence level of 90%

and a confidence interval of 10% due to voluntary decision not to participate in the study. Given

the high interest in teaching in this population, the support of school leadership, and the general

interest in professional research on education, it was anticipated that the dropout rate would be low enough to obtain an anticipated response rate of at least 35. It was anticipated that all demographics would participate at similar levels; any dropout might indicate demographic groups that are already less engaged in their work, e.g., teachers who are on temporary contracts. Another similar-organized but larger study used a sample size $n = 52$ (Malmberg et al., 2014, p. 434). A failure to reach adequate participation rates would require a redesign of this study to include a sample of teachers at several local independent schools.

Human Subjects Considerations

      Site approval. Permission to engage in this study at Cascade School was secured from the Head of School. Site approval was obtained and stored prior to data collection.

      Opt-in and informed consent. Permission to undertake this study and its research methods was secured from the Institutional Research Board (IRB) at Pepperdine University. Data collection did not begin until IRB approval was formally received. Human subjects were provided specific information regarding the study, the instruments and the research questions. Opt-in was required to participate in this voluntary study. Participants had the informed consent document explained to them at the initial faculty meeting and had to read through the informed consent document prior to beginning the ETS or terminating the data collection procedure. The informed consent document is based on a model provided by Pepperdine's IRB. Participants were able to refuse to answer any question or withdraw from the study. School administrators were not be notified of any withdrawals or non-participation.

      Risks and confidentiality. No more than minimal risk of economic harm or benefit is anticipated. Participation in this study may increase internal questioning about a participant's role in his or her work or make a participant more reflective (Hektner et al., 2007, p. 107).

Minor fatigue may occur physically as a result of filling out the instrument. No more than minimal risk of legal, social or economic harm is anticipated as resulting from participation in this study.

       Electronic data. Personally identifiable and private information was kept confidential by collecting data using software or third parties that would not collect names or other personally identifiable information. Data was reported only in the aggregate. Research records were stored in encrypted data files.

       The Qualtrics online software package provided by Pepperdine University was used for administering these surveys. This software allows for mailing individualized links to participants. This allows for tracking and connecting repeated survey responses over the course of data collection.

       Personally identifiable and private information was limited to data collected by Qualtrics professional survey software provided by Pepperdine University. Qualtrics sent a unique link to each participant. This consisted of an e-mail address (identifier) internal to Cascade School's systems. This identifier was coded to a unique and random identification number and then stripped out so that the confidentiality of the individual subjects was protected. This process of automatically coding the identifier, and stripping it from the data, was initiated by an outside researcher to mitigate limitations related to confidentiality. This researcher was trained in correct use of Qualtrics software by taking training provided in the Qualtrics documentation and was further trained on the particular survey instruments by the researcher. The researcher had received human subjects training.

       The e-mail address, IP address, and any other unanticipated device identifiers were stripped from collected survey data before analysis.

Paper records. One copy of the list of random numeric identifiers coded to participant e-mail addresses was to be kept in a sealed envelope locked in a sealed cabinet. Any other unanticipated paper records were to be stored in the same sealed cabinet.

Balancing risks and benefits. The benefits to the teaching profession generally balance the minimal risks of a breach of confidentiality. The minimal risks are mitigated by a de-identification of participants as described elsewhere in this study.

Benefits to participants. Participants did not receive remuneration beyond early release from the school workday in lieu of regularly scheduled meetings on the day data were collected. No other economic benefits incurred. No known deception was planned for this study.

Potential conflicts of interest. No conflicts of interest are claimed. As the researcher is the director of technology at the site school, there may be the appearance of compromising the conduct or reporting of research. However, no metric of the researcher's work at the school relies on the outcomes of this study. The researcher directly supervises two technology specialist teachers but does not make decisions about their compensation. The researcher stressed that this study will not be used by the administration of the school to evaluate workers, which would understood in the literature to be ill-advised (Kubey et al., 1996, p. 103).

Data Collection Setting and Procedures

Data collection took place in person on the campus of Cascade School. Permission to organize this study was secured from the Head of School. Site approval was obtained and stored prior to data collection.

An Information/Facts Sheet was shown to participants prior to participants filling out the first survey, the Engaged Teachers Scale (ETS). This information sheet was modeled on the "Information Sheet for Online Surveys" distributed by the Pepperdine University Graduate &

Professional Schools Institutional Review Board (GPS IRB). As discussed in prior sections of

this study, research participants had the ability to opt-in or opt-out. It was anticipated that a high

participation rate would be facilitated by the ETS being administered during the regular,

mandatory, meeting time for faculty and by intrinsic interest in a topic central to the experience

of teachers.

For the ETS, the participants were brought together at a regular faculty meeting

consisting of teachers from all grade levels. Data collection was anticipated to take a maximum

of 5-10 minutes. It took place at the beginning of the school's regular faculty meeting time in

the afternoon. Those who opted not to participate in the study were to be asked to perform

another task by their administrators. Participants filled out the 16 item Engaged Teachers Scale

(ETS) at a regular faculty meeting using their own digital devices (employer provided iPad

tablets or MacBooks). As suggested by the instrument manual for the UWES instrument, a

predecessor to the ETS, the instructions for completing the survey are "self-evident" (Schaufeli

& Bakker, 2004, p. 33).

For the next five working days, at the conclusion of each class period, participant were to

fill out a short (approximately two minute) experience sampling form (ESF) on their own digital

devices. The ESF was administered using a form designed in the Qualtrics platform with e-mail

reminders programmed, for delivery, with a link to the form at the conclusion of class periods to

all participants.

Instrumentation

In order to have the best opportunity to examine teacher engagement, data was collected

with two different instruments: a one-time survey called the Engaged Teachers Scale (ETS) and

an Experience Sampling Method form (ESF). A multimethod approach that utilizes experience

sampling and a complementary one-time survey gave this study an opportunity to compare

responses from both instruments which was intended to lead to stronger research (Hektner et al.,

2007, p. 110). This type of dual instrumentation has been successful with teachers in the past

(Malmberg et al., 2014). Experience sampling is very frequently used in conjunction with other

instruments. In the literature, it is considered good practice to design studies that blend

experience sampling with other methods. Experience sampling broadens the potential of other

methods (Kubey et al., 1996, p. 103).

     While it is normative in experience sampling studies to ask questions about demographic

data using a separate survey at the beginning of the study (Hektner et al., 2007, p. 76; Kubey et

al., 1996, p. 103), this limited study intentionally omitted this step to make identification of

participants less likely.

     Table 2 highlights this study's research questions, related hypotheses, and the instruments

with the specific scale items that will be used to consider each research question.

     The Engaged Teachers Scale (ETS). The Engaged Teachers Scale (ETS) is a validated

4-factor 16-item measure of teacher engagement. As a one-time survey, it considers teacher

engagement as an overall personal trait. It is a brief, practical, and multidimensional measure

that is reliable for use in education settings. The four factors are cognitive engagement,

emotional engagement, social engagement with students, and social engagement with colleagues

(Klassen et al., 2013, p. 49). The ETS can measure an overall factor of engagement or measure

engagement as four distinguished factors (Wagner, 2013, p. 65). In this study, being able to

compare teacher engagement as a trait (using the ETS overall factor of teacher engagement) with

teacher engagement as a state is more important than analyzing the four distinct factors of

teacher engagement.

Table 2

Data Analysis: Research Questions, Hypotheses, and Research Methods

Research Question	Hypothesis	Scales / Survey Items
1. What are the trait and state teacher engagement characteristics for grade 4-8 teachers at a small independent school?	(Descriptive)	• ETS (Trait Teacher Engagement); • ESF (State Teacher Engagement).
2. To what extent is there a relationship between a teacher's engagement when measured as a static trait and that teacher's engagement when measured as a dynamic state?	There is a relationship between a teacher's engagement level when measured as a trait and a teacher's engagement level when measured as a state over time.	• TE:Trait (ETS items 1-16); • TE:State (ESF items 2, 5, 10) averaged over number of classes.
3. To what extent is there a relationship between a teacher's engagement and that teacher's social interactions with students?	There is a relationship between a teacher's engagement level and the teacher's social interactions with students.	• TE:State (ESF items 2, 5, 10) averaged over number of classes; • Trait Social Engagement with Students (ETS items 3, 6, 14, 16); • Also compare to TE:Trait (ETS items 1-16).
4. To what extent is there a relationship between a teacher's engagement and that teacher's interactions with his or her school administrators?	There is a relationship between a teacher's engagement level and the teacher's feelings about his or her interactions with administrators.	• TE:State (ESF items 2, 5, 10); • Scale about interaction with leader: "How has your most recent interaction with an administrator impacted how you are feeling?" (ESF item 14); • Also compare to Trait Social Engagement with Colleagues (ETS items 1, 7, 9, 12); • Also compare to TE:Trait (ETS items 1-16).

Research Question	Hypothesis	Scales / Survey Items
5. To what extent is there a relationship between a teacher's engagement and the mean number of different instructional formats used in each class period?	There is a relationship between a teacher's engagement level and the mean number of different instructional formats used in each class period.	- TE:State (ESF items 2, 5, 10); - Mean number of different instructional formats used in each class period (ESF item 1, i.e., checkboxes answering question "What instructional formats did you use in this class?"); - Also compare to TE:Trait (ETS items 1-16).
6. To what extent is there a relationship between a teacher's engagement and the percentage of time that the teacher uses each of the 13 instructional formats?	There will be at least one significant relationship between a teacher's engagement level and the percentage of time that the teacher uses each of the 13 instructional formats.	- TE:Trait (ETS items 1-16); - Mean of TE:State (ETS items 1-16); - Percentage, or frequency, that each different instructional format used in each class period (ESF item 1, i.e., checkboxes answering question "What instructional formats did you use in this class?").

The ETS is a recently developed scale. At the time of this study, it has only been used in one dissertation (specifically, Wagner, 2013). It was designed specifically for teachers to replace the Utrecht Work Engagement Scale (UWES), a self-report questionnaire that seeks to measure work engagement as opposed to engagement's counterpart, burnout. Engaged workers "feel vigorous and enthusiastic about their work" (Schaufeli & Bakker, 2004, p. 3). The UWES measured three dimensions of engagement: vigor, dedication, and absorption (Nerstad et al., 2010, p. 327). By contrast, the ETS considers four dimensions: cognitive engagement (CE), emotional engagement (EE), social engagement: students (SEwS), and social engagement: colleagues (SEC). The special contribution of the ETS is adding a dimension that studies social engagement with students. This particular kind of engagement is felt to be a particular hallmark of the teaching profession (Klassen et al., 2013, p. 35).

The ETS has been found to be reliable and valid (Klassen et al., 2013; Wagner, 2013, p. 65). Psychometric results confirm the factorial validity of the ETS (Klassen et al., 2013, p. 48).

It is highly correlated to the well-studied and understood UWES. Teachers who score highly on

the ETS also score highly on the UWES (Klassen et al., 2013, p. 46). The ETS is usable — brief

— and its questions are geared to the actual work teachers do. The reliability and validity of the

ETS along with its brevity make it a usable tool for this study (Klassen et al., 2013, p. 46).

On the ETS, items 4, 8, 11, and 15 relate to cognitive engagement (CE). Items 2, 5, 10,

and 13 relate to emotional engagement (EE). Items 3, 6, 14, and 16 are connected to social

engagement: students (SEwS). Items 1, 7, 9, and 12 refer to social engagement: students (SEC).

Questions such as "In class, I show warmth to my students" and "In class, I care about

the problems of my students" are rated on a six-point scale ranging from "Never" to

"Sometimes" to "Always" (The full scale as provided by R. Klassen is reproduced with

permission in Appendix 1). The ETS is in the public domain and can be used with appropriate

reference (R. Klassen, personal communication, July 15, 2014).

The ETS measures engagement as a personal static trait. Yet, as discussed in the

literature review in Chapter 2, some authors argue that work engagement fluctuates over time.

Rather than being "an engaged teacher" a teacher might "feel engaged today." The ETS cannot

measure how engaged teaching might be something that is socially transmitted or "shared"

(Klassen et al., 2013, p. 48). Even Klassen et al. (2012, p. 49) point out that more granular time

spans may aid in understanding teachers and teaching.

Experience sampling method (ESM). In order to better understand teachers and

teaching, experience sampling helps record and analyze the subjective experience of participants

throughout the workday. Questions on an experience sampling method form (ESF) solicit

information on specific activities at intervals throughout the day. These specific activities give

insight on cognitive and affective states associated with those activities. The ESF makes it

possible to tie engagement to a specific class period in a way that is not possible with a one-time

questionnaire like the ETS.

Experience sampling is particularly effective when the ESF is administered digitally.

Collecting data in a longitudinal way using technological devices can reduce retrospection bias

(Csikszentmihalyi & Schneider, 2000; Hektner et al., 2007; Kubey et al., 1996).

Digital tool. The experience sampling method form (ESF) was emailed using the

Qualtrics product licensed by Pepperdine University. Any sophisticated digital survey tool could

have been chosen. Google Forms would be an especially appropriate choice given its ubiquity in

schools and thus its familiarity for teachers. Yet, Qualtrics was chosen for its capability to

provide participants with a link unique to the participant while recording minimal data about the

participant in the resulting dataset. Qualtrics allows for the easy creation of Likert scale matrices

and for the display of informed consent materials.

Length of ESF. The form is designed to take one minute to complete. The time it takes

to complete a survey is critical for teachers. The length must be weighed heavily against the

desirability of measuring constructs with as many questions as possible (Malmberg et al., 2014,

p. 447). The respondent was to answer questions about the class he or she was involved in, the

predominant activity or lesson types that were taking place, and his or her thoughts and feelings

at the time.

Number of responses. Ideally, teachers would respond with an ESF after every class

they teach or at least after three quarters of the classes they teach (Csikszentmihalyi & Schneider,

2000, p. 28). The confidentiality requirements of this study and the fluid nature of the teaching

schedule at the study site do not allow for tracking precisely how many classes are being taught

by particular participants. Participants that do successfully complete the ETS and do submit

experience sampling forms will be included.

        Signaling schedule and duration. The decision of how and when to signal participants

has ramifications for the kind of assertions that can be made from the data collected. The most

typical form of ESM study involves *signal-contingent sampling* to most randomly sample for

moments of flow. A schedule that is unpredictable for the participants provides the most

representative sample of each person's moods and activities (Csikszentmihalyi & Schneider,

2000, p. 28). For this study, in order not to interrupt the phenomenon being studied, a variant of

event-contingent sampling was utilized for the ESM portion of the study. In this signaling

schedule, participants are "simply instructed to complete a self-report following a particular

event of interest" (Hektner et al., 2007, p. 40). This is an acceptable form of ESM (Hektner et

al., 2007). This form of ESM may introduce bias (Zhu, 2001, p. 42). But on balance this

approach seems to be an appropriate way to interact with teachers given their real-life work

situations. ESM was used in this way in a similarly instrumented study (Malmberg et al., 2014).

Following the example of a previous ESM study of teachers (Malmberg et al., 2014, p. 435),

teachers were asked to report on each lesson during the last 10 minutes of each class or during

the immediate break or transition time afterwards if reporting during the lesson proves

problematic. To help improve participation levels, the researcher sent a link through e-mail after

class periods.

        To avoid "overburdening respondents" while still getting a "representative sampling of

daily experience" (Hektner et al., 2007, p. 41), this study took place over the course of one

school workweek. Most ESM studies take place over the course of a week (e.g.,

Csikszentmihalyi & Schneider, 2000; Schneider & Waite, 2005, p. 20) but some are as short as

three days long or as long as three weeks long (Hektner et al., 2007, p. 41). A ten day schedule

of instructional days might be ideal in this particular school setting due to the ten day

instructional cycle but this study is mindful of the admonition that "researchers must consider

how compliant their study participants are likely to be" (Hektner et al., 2007, p. 41). It was

proposed that signaling would begin at the first class period of a Tuesday morning following a

regularly scheduled Monday faculty meeting and end the following Monday after the last period

of instruction. Teachers would typically have three-four opportunities a day to complete ESM

forms depending on teaching schedule. This schedule was to result in data that are not

particularly comprehensive but would be less burdensome to participants and thus more likely to

yield data that can be utilized in this preliminary study. A balance must be maintained between

the length of responses requested and the number of signals and the duration of the study

(Hektner et al., 2007, p. 42). Given the multiple methods utilized by this study, fewer ESM

forms and a shorter duration are planned.

A limitation of utilizing a shorter duration with experience sampling method that is also

restricted to the particular events being studied is that the researcher would not be able to

compare subjective experience across contexts. As Hektner et al. explain (2007, p. 42), "while

we may know that person A is happier in school than person B, for example, we are unable to

determine whether person A is simply always happier than person B or whether this difference is

observed only in school. If one is not able to compare experience in one situation (or in one day)

with an individual's other experiences, it is difficult to make sense of the findings." This

limitation is abrogated by the research questions' focus on classroom practice more specifically

but future studies may wish to broaden the signal schedule.

Reliability and validity. The large body of literature on the reliability and validity of the ESM is discussed in Csikszentmihalyi & Schneider (2000, p. 28). The reliability and validity of ESM is considered well established over many years and numerous studies (Kubey et al., 1996). In general, the form to be used in experience sampling studies has been purposefully left unstructured to encourage researchers to tailor a form for their own purposes (Hektner et al., 2007, p. 42; Kubey et al., 1996). The specific form used in this study is based on the ESF validated in DiBianca's dissertation (2000).

High validity has been obtained when participant time allocation is measured with the ESM and compared against time allocation measured with the diary method of sampling. As noted in Kubey et al. (1996), over comparable activities, the two methods produced a Spearman rank order correlation of .93. Findings indicate that respondents are generally truthful in reporting their immediate subjective experiences. Studies comparing various means of obtaining information on psychological states find strong correlations between immediate psychological states obtained via the ESM and general subjective states obtained in questionnaires (Schneider & Waite, 2005, p. 20).

Open-ended answers and diary method. The ESF in this study concludes with an open-ended text entry box labeled "General Comments (optional)." This is a standard feature of experience sampling studies (Hektner et al., 2007). Intentionally, the responses to this question were not coded or evaluated as part of the design of this study. While a diary response could have been used to analyze information about the within-person experience of work engagement (Bakker & Oerlemans, 2011, p. 17; Sonnentag et al., 2010, p. 28), the design of this study gravitated to quantitative analysis. Providing a box for respondents to insert additional feedback about their experiences was intended to help "elicit the story" (Richards & Morse, 2013, p. 126)

of participants as they answer the scale items which would be analyzed in the quantitative design of this study.

Analytic Techniques

     Data preparation. Data was collected using web-based self-report surveys and web-based experience sampling forms. The 4-factor 16-item Engaged Teachers Scale (ETS) is a multidimensional measure that is practical (i.e., brief), valid, and reliable for use in education settings and reflect the underlying dimensions of teacher engagement. The sixteen items measure four factors: cognitive engagement, emotional engagement, social engagement: students, and social engagement: colleagues (Klassen et al., 2013, p. 49). All items are scored on a 7-point frequency rating scale ranging from 0 (never) to 6 (always).

     Following Xanthopoulou et al. (2008, p. 349), the researcher was to compute an overall work engagement factor score of the ETS in addition to the four distinguished factors. Data were downloaded from Qualtrics into SPSS format to prepare for statistical analysis.

     The Experience Sampling Form (ESF) data were also downloaded from Qualtrics into SPSS format for statistical analysis. Data were correlated to the appropriate rows of the ETS workbook noted above to allow for straightforward statistical analysis.

     Data analysis. In most statistical analyses of ESM data, mean values are calculated for each person's responses to any given item, and these means, rather than the specific responses, are often used in analysis. Experience sampling (ESM) is particularly suited to "capture moments of flow" (Csikszentmihalyi & Schneider, 2000, p. 99) or other internal characteristics such as engagement, happiness, etc.

     For ESM, the person, not an individual response, is the unit of measurement:

In most statistical analyses of ESM data, mean values are calculated for each person's

response to any given item, and these means, rather than the specific responses, are used

in analysis. Thus, the unit of analysis is the person, not the response. For example, to

test whether young men or young women reported greater happiness, the appropriate

comparison is between the mean happiness scores of males and females.

(Csikszentmihalyi & Schneider, 2000, p. 28)

For the research questions of this study, this type of analysis is most appropriate.

Descriptive statistics are not guided by hypotheses. Instead they are used to summarize

data in a meaningful way (Freedman, Pisani, & Purves, 2011). Interval and ratio variables are

usually presented with measures of central tendency (mean and median), dispersion (standard

deviation, variance, range, minimum and maximum), and in graphs such as histograms or scatter

plots. Nominal and ordinal variables are usually presented in discrete counts and percentages by

groupings and graphs such as bar graphs (Freedman et al., 2011). Following Storm & Rothmann

(2007), descriptive statistics were used to look at the participant profile to make sure participants

fit the census data. Descriptive statistics were also be used to provide information for research

question one by looking at the characteristics that engaged teachers share at a small independent

school.

The Pearson Product Moment Correlation (PPMC) is a very common way to examine the

relationship between two continuous variables and is denoted by the symbol r (Freedman et al.,

2011). A correlational analysis examines the strength of the linear relationship between two

variables at a time.

The Pearson correlation coefficient, r, can only range from -1.0 to +1.0. An r value of

zero indicates no correlation has been found between the two variables being considered. The

closer the coefficient is to +1.0 or –1.0, the stronger the relationship of the two variables. A

value of +1 or -1 means that all the data points are included on a line of best fit through the data

of the two variables.

Further, the correlational analysis provides information the direction (positive or

negative) in which the two variables interact with each other. In a positive relationship, as one

variable increases, so does the value of the other variable. On the other hand, in a negative

relationship, while one variable goes up the other variable goes down.

The major limitation of correlational analysis is that causation can never be inferred from

one variable to another (Freedman et al., 2011). In order to analyze research questions two

through six, correlational analysis of items from the Engaged Teachers Scale (ETS) and

aggregated measurements from the Experience Sampling Form (ESF) were performed using

PPMC. Spearman's correlations could have been used if variables displayed a high degree of

non-normality.

Statistical analysis was carried out by means of the Statistical Package for the Social

Science, Version 23.0 (SPSS). SPSS is a comprehensive statistical software package that helps

analyze data.

Following guidelines in Hektner et al. (2007), the ESF data were examined prior to

analysis. As in Bennett, Trigg, Goober, & Brown (2015), each participant's data were

aggregated by calculating a mean score for each of the ESF questions. Responses were averaged

over the number of instances in which data were provided.

Chapter 4. Research Findings

Overview

This chapter recaps findings in a study of teacher engagement at a small independent school. As a prefatory recap to the study, teachers are central to the experience of children in schools. The influence of teachers on classroom learning is pivotal. The engagement of teachers in their work, known as teacher engagement, is linked to increased job satisfaction, workplace productivity, and even student engagement (Parker et al., 2012). This quantitative study strives to deepen the understanding of teacher engagement. It seeks to better understand the interplay between measuring teacher engagement as a personal trait and as a state that changes over time. It works to better understand the correlations between engaged teaching and social connections with both students and administrators. It also seeks to better understand the connection between teacher engagement and the use of different instructional formats. This study will allow for the continued development of a taxonomy and framework for better studying and measuring the teacher engagement construct. This could lead to subsequent studies and adaptations.

This study measured teacher engagement in two ways:

- as a personal trait (using the Engaged Teachers Scale, or ETS, administered once);
- as a state that may change over time (using an Experience Sampling Method form, or ESF, multiple times over the course of a work week) along with variables on instructional format and the level of interaction with an administrator. The ESF attempts to capture data about the situations of teachers in close to real time (Hektner et al., 2007, p. 93).

Data Collection

Data collection took place on the campus at a small independent K-8 school known as Cascade School. This study sought to examine the population of teachers, who instruct more than two hundred students in grades 4-8. These middle grade levels were selected to have instructional formats be more comparable. This single population was studied using a census. The teachers that make up this population range in age from 23 – 72. The population was educated: all members of the population possess bachelor's degrees; many have master's degrees and/or are professionally credentialed. Two thirds of the teachers were women.

The study used the school's official employee-teacher list as of September 1, 2015, which listed a population of $N = 41$. The study attempted to sample most of the teacher population. The minimum number of required participants was 35 with an alpha level of 0.10 and a beta level of .90. It was anticipated that all demographics of the study participate would be at similar levels; any dropout would indicate demographic groups that were already less engaged in their work, e.g., teachers who were on temporary contracts.

Data collection took place in person on the campus of the school. Permission to organize this study was secured by the researcher from the Head of School. Site approval was obtained and stored prior to data collection. An Information/Facts Sheet was shown to participants prior to participants filling out the first survey, the Engaged Teachers Scale (ETS). This information sheet was modeled on the "Information Sheet for Online Surveys" distributed by the Pepperdine University Graduate & Professional Schools Institutional Review Board (GPS IRB). All research participants had the ability to participate, or not, in the study and withdraw at any time. Intrinsic interest in the topic predicted a high participation rate.

The ETS was administered during the regular faculty meeting time to promote ease of participation. For the ETS, the participants were brought together at a regular faculty meeting consisting of teachers from all grade levels. Participants filled out the 16 item Engaged Teachers Scale (ETS) using their own digital devices (employer provided iPad tablets or MacBooks). Data collection took approximately 5-10 minutes. Those who decided not to participate in the study were asked to perform another task by their administrators.

The experience sampling form (ESF) was collected over the next five working days. At the conclusion of each class period, participants filled out the short two-minute ESF on their own digital devices. The ESF was administered using a form designed in the Qualtrics platform with e-mail reminders programmed, for delivery, with a link to the form at the conclusion of class periods to all participants.

During data collection, each response was tied to an e-mail address (identifier) internal to the school's systems. This identifier was coded to a unique and random identification number. After the data was collected from the participants, this identifier was coded to a unique and random identification number and then stripped out of the data files so that the confidentiality of the individual subjects was protected. This process of automatically coding the identifier, and stripping it from the data, was initiated by personnel unaffiliated with the school. Moreover, the serialization of the names of participants was kept confidential from the researcher or any school staff member. The researcher did not follow up with non-respondents or with individuals who were not present the day the ETS was administered.

Participant Profile

The study sample was gathered to be representative of the teacher census at Cascade School. From the census information, participants are expected to be in age from 23 to 72 years

old and all hold bachelor's degrees and many have master's degrees and/or are professionally

credentialed. Two thirds of the teachers were women. The study sample consisted of 39

participants out of a sampling frame of 41 for a 95% response rate. Given this high rate of

response, the sample is concluded to appear virtually identical to population from which it was

gathered. Thus, the results from the data analysis are considered generalizable to the full school

population. While not generalizable to the population of all schools with similar profiles, the

results may be considered empirically suggestive of potential relationships elsewhere, especially

to other small independent schools.

Data Analysis

Descriptive statistics are not guided by hypotheses. Instead, they are used to summarize

data in a meaningful way (Freedman et al., 2011). Interval and ratio variables are usually

presented with measures of central tendency (mean and median), dispersion (standard deviation,

variance, range, minimum and maximum), and in graphs such as histograms or scatter plots.

Nominal and ordinal variables are usually presented in discrete counts and percentages by

groupings and graphs such as bar graphs (Freedman et al., 2011). Descriptive statistics were used

to look at the participant profile to make sure participants fit the census data. Descriptive

statistics were also used to provide information for research question one by looking at the

characteristics that engaged teachers share at a small independent school.

The strengths of linear relationship between two continuous variables were examined

using the Pearson Product Moment Correlation (PPMC). PPMC is denoted by the symbol *r*

(Freedman et al., 2011).   The Pearson correlation coefficient, *r*, can only range from -1.0 to

+1.0. An *r* value of zero indicates no correlation has been found between the two variables being

considered. The closer the coefficient is to +1.0 or –1.0, the stronger the relationship of the two

variables. When all data points are included on a line of best first through the data of the two variables, there will be a value of +1 or -1.

The correlational analysis provides information the direction (positive or negative) in which the two variables interact with each other or covary. In a positive relationship, as one variable increases, so does the value of the other variable. On the other hand, in a negative relationship, while one variable goes up the other variable goes down.

Causation can never be inferred from one variable to another in correlational analysis (Freedman et al., 2011). In order to analyze research questions two through six, correlational analysis of items from the Engaged Teachers Scale (ETS) and aggregated measurements from the Experience Sampling Form (ESF) were performed using PPMC.

Statistical analysis was carried out by means of the Statistical Package for the Social Science, Version 23.0 (SPSS). SPSS is a comprehensive statistical software package that helps analyze data.

Table 3

Study Research Questions, Hypotheses, and Outcomes

Research Question	Hypothesis	Outcome of Hypothesis
1. What are the trait and state teacher engagement characteristics for grade 4-8 teachers at a small independent school?	(Descriptive)	• TE:Trait average score was 6.08 ($SD = .40$); • TE:State average score was 3.54 ($SD = .35$)
2. To what extent is there a relationship between a teacher's engagement when measured as a static trait and that teacher's engagement when measured as a dynamic state?	There is a relationship between a teacher's engagement level when measured as a trait and a teacher's engagement level when measured as a state over time.	• Significant relationship between TE:Trait and TE:State at $r = .39$, $p = .02$;
3. To what extent is there a relationship between a teacher's engagement and that teacher's social interactions with students?	There is a relationship between a teacher's engagement level and the teacher's social interactions with students.	• There was a significant relationship between TE:Trait and SEwS at $r = .76$, $p < .01$; • There was not a statistically significant relationship between and TE:State and SEwS at $r = .20$, $p = .23$.
4. To what extent is there a relationship between a teacher's engagement and that teacher's interactions with his or her school administrators?	There is a relationship between a teacher's engagement level and the teacher's feelings about his or her interactions with administrators.	• There was a significant relationship between TE:Trait and SEC at $r = .61$, $p = 0.04$; • There was not a statistically significant relationship between a TE:State and SEC at $r = .06$, $p = .74$; • There was not a statistically significant relationship between TE:Trait and ESF 14, at $r = -.03$, $p = .88$; • There was not a statistically significant relationship between TE:State and ESF 14 at $r = .05$, $p = .76$; • There was not a statistically significant relationship between ESF 14 and SEC at $r = .06$, $p = .74$.
5. To what extent is there a relationship between a teacher's engagement and the mean number of different instructional formats used in each class period?	There is a relationship between a teacher's engagement level and the mean number of different instructional formats used in each class period.	• There was not a statistically significant positive relationship between TE:Trait and the mean number of different instructional formats used in each class period at $r = .11$, $p = .52$; • There was also not a statistically significant positive relationship between TE:State and the mean number of different instructional formats used in each class period at $r = -.26$, $p = 0.11$.
6. To what extent is there a relationship between a teacher's engagement and the percentage of time that the teacher uses each of the 13 instructional formats?	There will be at least one significant relationship between a teacher's engagement level and the percentage of time that the teacher uses each of the 13 instructional formats.	• There was a significant positive correlation between TE:Trait and the instructional format "test/quiz" at $r = .35$, $p = 0.03$. • There was also a negative correlation between TE:State and the instructional activity of "housekeeping" at $r = -.33$, $p = 0.04$.

Research Findings

This study examined six research questions. Each of these research questions is

considered, along with its corresponding null and alternate hypothesis (when applicable) and

findings. Table 3 is a concise listing of study research questions, corresponding hypotheses, and outcomes.

Research Question 1

Research question 1. What are the trait and state teacher engagement characteristics for grade 4-8 teachers at a small independent school?

Findings. The Engaged Teachers Scale (ETS) considers four trait engagement dimensions: cognitive engagement (CE), emotional engagement (EE), social engagement students (called SEwS in this study), and social engagement: colleagues (SEC). Cognitive engagement was measured by items 4, 8, 11, 15; Emotional engagement was measured by items 2, 5, 10, 13; Social engagement with students was measured by items 3, 6, 14, 16; Social engagement with colleagues was measured by items 1, 7, 9 and 12. The total ETS score, called TE:Trait in this study, was measured by items 1 through 16. All scales on the ETS were summed and then averaged as described in Klassen et al. (2013). In the ETS scales, the lowest level of engagement is a score of 1 and the highest level of engagement is a score of 7.

A seen in Table 4, the average level of CE was 6.17 (SD = .55) with a minimum of 4.75 and a maximum of 7.00 with a range of 2.25. Next, EE had an average score of 6.12 (SD = .61) with a minimum of 4.50 and a maximum of 7.00 with a range of 2.50. Then, SEwS had an average score of 6.14 (SD = .53) with a minimum of 5.00 and a maximum of 7.00 with a range of 2.00. Finally, SEC had an average score of 5.93 (SD = .53) with a minimum of 4.25 and a maximum of 7.00 with a range of 2.75. The TE:Trait average score was 6.08 (SD = .40) with a minimum of 5.06 and a maximum of 6.94 with a range of 1.88. Based on observation of dimensional trends, the participants appear to have a high level of trait engagement on all four dimensions and the total score (TE:Trait).

Table 4

Average Levels of Teacher Engagement as Measured by Four Dimensions of ETS

	Cognitive Engagement (CE)	Emotional Engagement (EE)	Social Engagement with Students (SEwS)	Social Engagement with Colleagues (SEC)
Mean	6.17	6.12	6.14	5.93
Median	6.00	6.00	6.00	6.00
Std. Deviation	.55	.61	.53	.614
Variance	.30	.37	.28	.377
Range	2.25	2.50	2.00	2.75
Minimum	4.75	4.50	5.00	4.25
Maximum	7.00	7.00	7.00	7.00

The Experience Sampling Form (ESF) was administered in order to further understand teachers and teaching, the experiences of teaching, and the engagement of teachers over time. Experience sampling helps measure the inner engagement state of participants throughout the workday. ESF was used to measure teacher engagement as a dynamic state (TE:State). In contrast, the ETS measured teacher engagement as a relatively fixed personal trait (TE:Trait).

TE:State for each individual consisted of the mean of five days of accumulated ratings by teachers on questions 2, 5 and 10 of the ESF. A low score was 1 and high score was 7. The total score of TE:State was calculated by summing questions 2, 5 and 10 and then taking the average, following the instructions in DiBianca (2000). The average score for TE:State was 3.54 ($SD =$ .35) with a minimum of 2.94 and a maximum of 4.28. As seen in Table 5, the average for ESF question 2 was 5.79 ($SD = 1.205$) and ESF question 10 was 5.86 ($SD = 6.00$) with a minimum of

1 and a maximum of 7. ESF question 2 was a rating on ability to concentrate and question 10

was a rating on involvement in the recent class. The observable scores show the participants had

high concentration and involvement levels. ESF question 5 asked if the participant wished to be

somewhere else. It had an average of 2.66 ($SD = 1.84$). The observable low scores reveal that

the participants appeared to not wish to be somewhere else.

Table 5

Trait Engagement as Measured by ESF

	How well were you concentrating (ESF Q2)?	Do you wish you had been doing something else (ESF Q5)?	detached:involved (ESF Q10)
Mean	5.79	2.66	5.86
Median	6.00	2.00	6.00
Std. Deviation	1.21	1.83	1.32
Variance	1.45	3.36	1.74
Range	6	6	6
Minimum	1	1	1
Maximum	7	7	7

Research Question 2

Research question 2. To what extent is there a relationship between a teacher's

engagement when measured as a static trait and that teacher's engagement when measured as a

dynamic state?

Corresponding null hypothesis. There is no positive relationship between a teacher's engagement level when measured as a trait and that teacher's engagement level when measured as a state.

Alternative hypothesis. There is a positive relationship between a teacher's engagement level when measured as a trait and that teacher's engagement level when measured as a state.

Findings. Pearson Product Moment Correlation (PPMC) was tested to see if there was a significant relationship between teacher engagement when measured as a static trait (TE:Trait) and teacher engagement when measured as a static trait (TE:State). The null hypothesis was rejected as there was a significant relationship between TE:Trait and TE:State at $r = .39$, $p = 0.02$. Further, the coefficient of determination ($R^2 = .15$) determined that TE:Trait accounted for 15% of the variance in scores of TE:State. The correlation was positive and this meant that TE:Trait scores vary in the same direction as TE:State in the study sample (Figure 1). This correlation with a small n is suggestive of a relationship more generally in the teacher population and merits further study with a larger n.
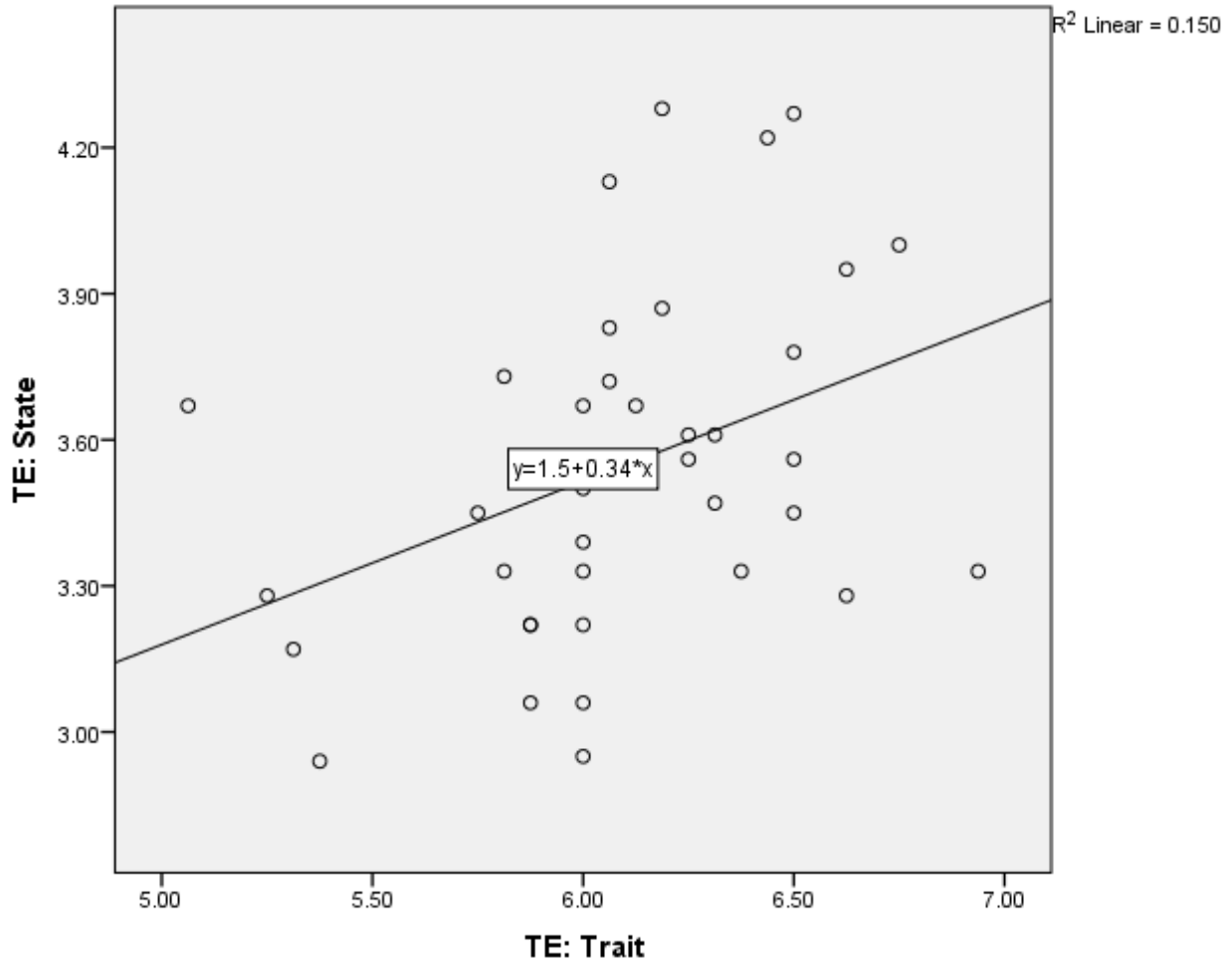
Figure 1. Scatterplot of teacher engagement measured as a trait (TE:Trait) and as a state

(TE:State).

Research Question 3

Research question 3. To what extent is there a relationship between a teacher's trait and

state engagement and that teacher's social interactions with students?

Corresponding null hypothesis. There is a no positive relationship between TE:Trait

and TE:State and SEwS.

Alternative hypothesis. There is a positive relationship between TE:Trait and TE:State

and SEwS.

Findings. Pearson Product Moment Correlation (PPMC) was tested to see if there is a relationship between a TE:Trait and TE:State and SEwS. The null hypothesis was partially rejected. There was a significant relationship between TE:Trait and SEwS at $r = .76$, $p < 0.01$. Further, the coefficient of determination ($R^2 = .58$) determined that TE:Trait accounted for 58.0% of the variance in the scores of SEwS. The positive correlation meant that TE:Trait scores vary in the same direction as SEwS scores (Figure 2).

There was not a statistically significant relationship found between TE:State and SEwS at $r = .20$, $p = 0.23$. Because of small n, it is difficult to obtain a statistically significant number. This result may indicate a direction of the data in the non-significant .1-.2 range. It is suggestive of a relationship and merits further study with a larger n.
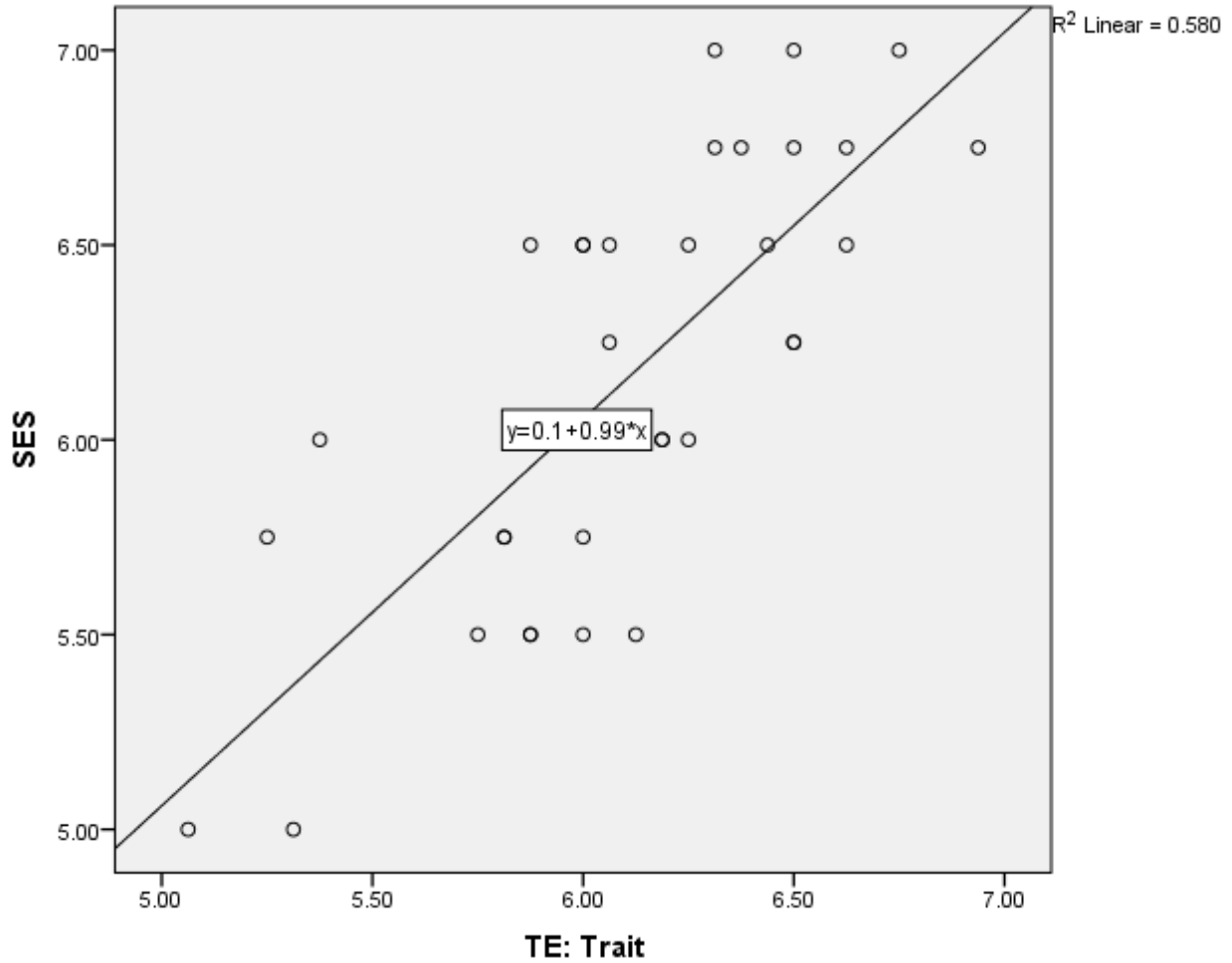
Figure 2. Scatterplot of trait teacher engagement (TE:Trait) and social engagement with students (SEwS).

Research Question 4

Research question 4. To what extent is there a relationship between a teacher's engagement and that teacher's interactions with his or her school administrators?

Corresponding null hypothesis. There is no relationship between TE:Trait and TE:State and the SEC and also SEC and ESF 14.

Alternative hypothesis. There is a relationship between TE:Trait and TE:State and SEC and also SEC and ESF 14.

Findings. Pearson Product Moment Correlation (PPMC) was tested to see if there was a relationship between a TE:Trait and TE:State and SEC and SEC and ESF 14. ESF item 14 asked, "How has your most recent interaction with an administrator impacted how you are feeling?"

The null hypothesis was partially rejected in that there was a significant relationship between TE:Trait and SEC at $r = .61$, $p = 0.04$. This positive correlation meant that TE:Trait scores vary in the same direction as SEC scores (Figure 3). Conversely, no statistically significant relationship was found between TE:State and SEC at $r = .06$, $p = 0.74$.

Further, PPMC was tested to see if there was a relationship between either type of teacher engagement and ESF 14 (rating of a teacher's last interaction with an administrator). There was not a statistically significant relationship found between TE:Trait and ESF 14, at $r = -.03$, $p = .88$. Similarly, there was not a statistically significant relationship found between TE:State and ESF 14, at $r = .05$, $p = .76$.

To better understand how teachers relate to both colleagues and administrators, PPMC was tested to see if there was a relationship between SEC and ESF 14. There was not a statistically significant relationship found between ESF 14, rating of a teacher's last interaction with an administrator, (negative: positive) and SEC at $r = .06$, $p = 0.74$.

Table 6 presents the correlation matrix of the variables in this research question.
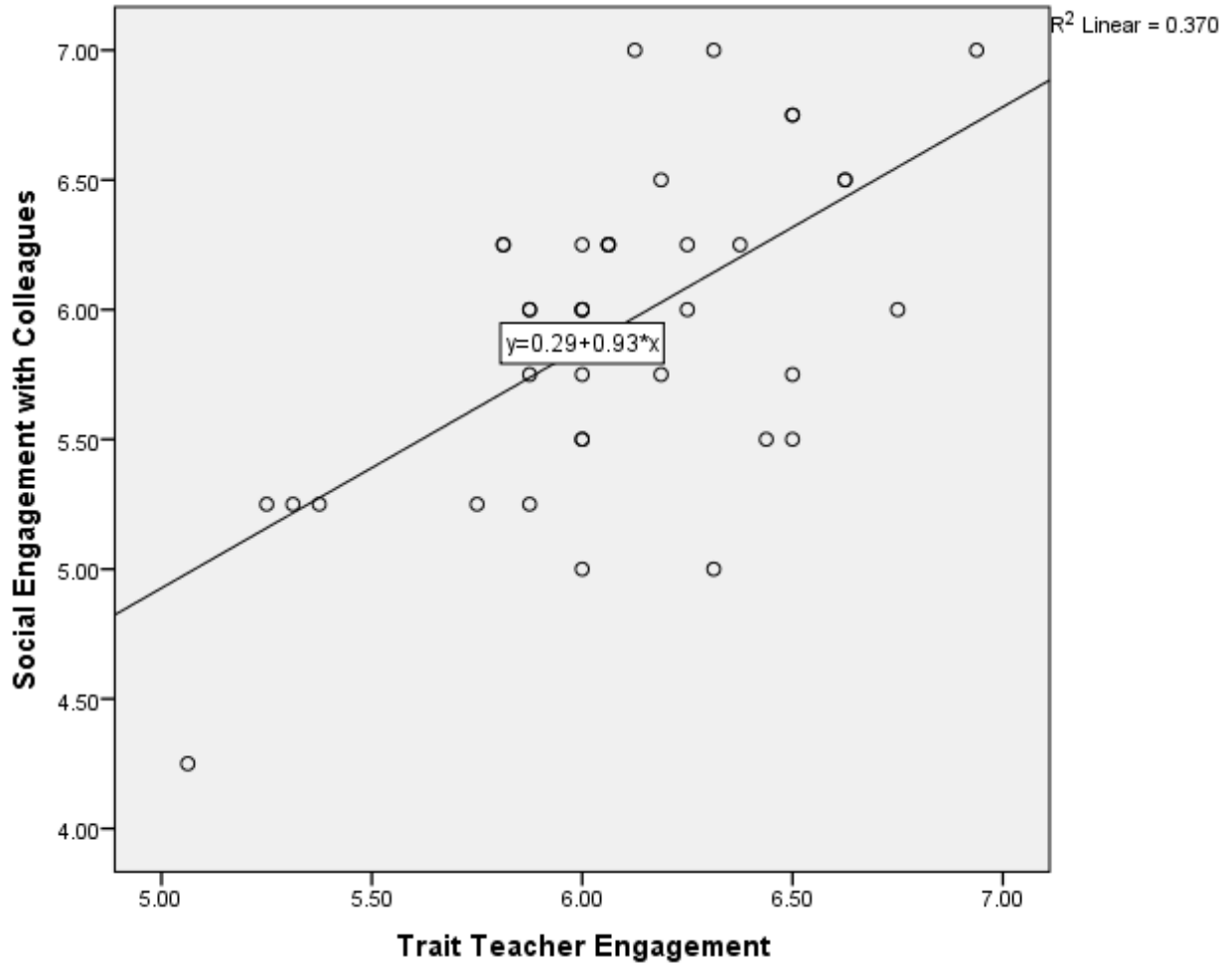
Figure 3. Scatterplot of trait teacher engagement (TE:Trait) and social engagement with

colleagues (SEC).

Table 6

Correlation Matrix for Research Question Four

		TE: Trait	TE: State	ESF 14	SEC
TE: Trait	Pearson Correlation	1	.39*	-.025	.61**
	Sig. (2-tailed)		.02	.88	.00
	N	39	39	39	39
TE: State	Pearson Correlation	.39*	1	.05	.06
	Sig. (2-tailed)	.02		.76	.74
	N	39	39	39	39
ESF 14	Pearson Correlation	-.03	.05	1	.04
	Sig. (2-tailed)	.88	.76		.83
	N	39	39	39	39
SEC	Pearson Correlation	.61**	.06	.04	1
	Sig. (2-tailed)	.00	.74	.83	
	N	39	39	39	39

Note. *. Correlation is significant at the 0.05 level (2-tailed).

   **. Correlation is significant at the 0.01 level (2-tailed).

Research Question 5

   Research question 5. To what extent is there a relationship between a teacher's

engagement and the mean number of different instructional formats used in each class period?

   Corresponding null hypothesis. There is no positive relationship between TE:Trait and

TE:State and the mean number of different instructional formats used in each class period.

   Alternative hypothesis. There is a positive relationship between TE:Trait and TE:State

and the mean number of different instructional formats used in each class period.

   Findings. Pearson Product Moment Correlation (PPMC) was used to test if there was a

relationship between TE:Trait and TE:State and the mean number of different instructional

formats used in each class period.

The null hypothesis was not rejected as there was not a statistically significant positive relationship found between TE:Trait and the mean number of different instructional formats used in each class period at $r = .12$, $p = 0.52$. There was also not a statistically significant positive relationship between TE:State and the mean number of different instructional formats used in each class period at $r = -.26$, $p = 0.11$. See Table 7. Because of small n, it is difficult to obtain statistically significant correlations. But the correlations in the non-significant .1-.2 range do indicate directions for the data. These are suggestive of relationships that support the alternative hypothesis and merit further study with a larger n.

Table 7

Correlation Matrix for Research Question Five

		TE:Trait	TE:State	Mean Number of Instructional Formats
TE:Trait	r	1	.39[*]	.11
	p		.02	.52
	N	39	39	39
TE:State	r	.39[*]	1	-.26
	p	.015		.11
	N	39	39	39
Mean Number of	r	.11	-.26	1
Instructional Formats	p	.52	.11	
	N	39	39	39

Note. *. Correlation is significant at the 0.05 level (2-tailed).

Research Question 6

     Research question 6. To what extent is there a relationship between a teacher's engagement and the percentage of time that the teacher uses each of the 13 instructional formats?

     Corresponding null hypothesis. When considering each of the 13 instructional formats in ESF Item 1, the null hypothesis is that there is no relationship between TE:Trait and TE:State and the percentage of time that a teacher uses each of the 13 instructional formats.

     Alternative hypothesis. There will be at least one relationship between TE:Trait and TE:State and the percentage of time that the teacher uses each of the 13 instructional formats.

     Findings. Pearson Product Moment Correlation (PPMC) was used to test if there was a significant relationship between TE:Trait and TE:State and the percentage of time that the teacher uses each of the 13 instructional formats measured in ESF item 1.

     The null hypothesis was partially rejected as, first, there was a significant positive correlation between TE:Trait and the instructional format "test/quiz" at $r = .35$, $p = 0.03$. The coefficient of determination shows that TE:Trait accounts for 12.3% of the variance in test-quiz. This meant that teachers who utilized the instructional format of "test/quiz" more often also exhibited higher teacher engagement when measured as a trait (TE:Trait). There was also a negative correlation between TE:State and the instructional activity of "housekeeping" at $r = -.33$, $p = 0.04$. The coefficient of determination shows that TE:State accounts for 10.7% of the variance in housekeeping. Please see Table 8 and Figures 4 and 5.

Table 8

Correlational Analysis for Research Question Six

		TE:Trait	TE:State	test/quiz	housekeeping
TE:Trait	*r*	1	.39[*]	.35[*]	-.12
	p		.02	.03	.48
	N	39	39	39	39
TE: State	*r*	.39[*]	1	.079	-.33[*]
	p	.015		.63	.04
	N	39	39	39	39
"test /quiz"	*t*	.35[*]	.08	1	.33[*]
	p	.03	.63		.04
	N	39	39	39	39
"housekeeping"	*r*	-.12	-.33[*]	.33[*]	1
	p	.48	.04	.04	
	N	39	39	39	39

Note: *. Correlation is significant at the 0.05 level (2-tailed).
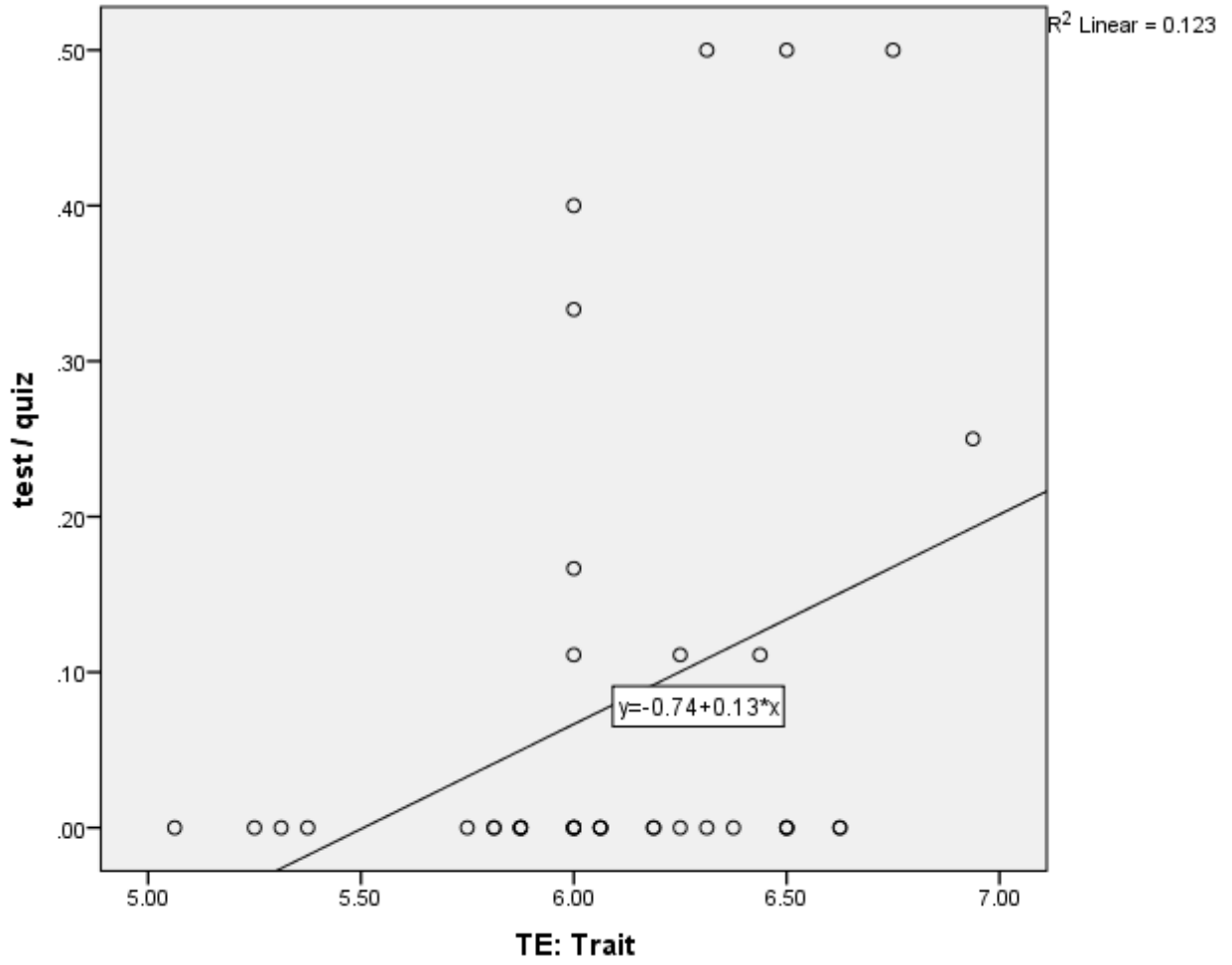
Figure 4. Scatterplot of TE:Trait and instructional format test/quiz
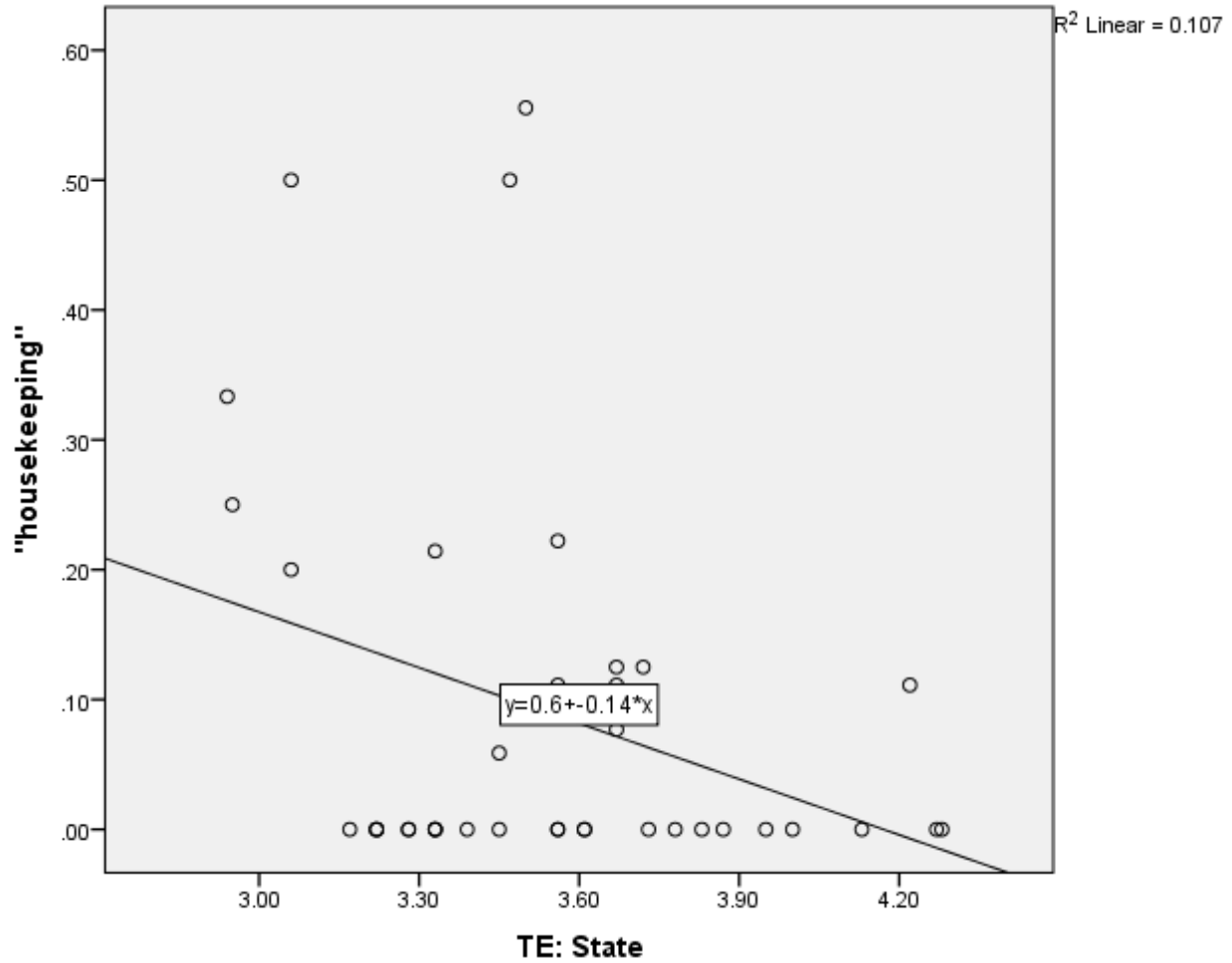
Figure 5. Scatterplot of TE:State and instructional format housekeeping

Summary of Results

The study sample consisted of 39 participants out of a sampling frame of 41 for a 95% response rate. Given this high rate of response, the sample is concluded to look just like the population from which it was gathered. Thus, the results from the data analysis are generalizable to the overall population of this small independent school.

The results for research question one indicated that based on observation of dimensional trends, the participants appear to have a high level of teacher engagement on all four dimensions of trait engagement and in the trait engagement total score (TE:Trait). Further, to consider

teacher engagement as a state, experience sampling measured TE:State for each participant. This

consisted of the mean of five days of ratings by teachers on questions 2, 5, and 10 of the ESF

with a low score of 1 and high score of 7. The average score for TE:State was 3.54 ($SD = .35$)

with a minimum of 2.94 and a maximum of 4.28.

On research question two, the hypothesis was confirmed. There was a significant

relationship between a teacher's engagement when measured as a static trait (TE:Trait) and that

teacher's engagement when measured as a dynamic state (TE:State). This meant that TE:State

covaried with TE:Trait.

The hypothesis was partially confirmed for research question 3. There was a significant

relationship between a teacher's engagement when considered as a trait and that teacher's social

interactions with students. There was not a statistically significant relationship found between a

teacher's engagement measured as a state and that teacher's social interactions with students.

More engaged teachers, when measured as a trait, exhibit higher social interactions with

students.

With research question four, the hypothesis was partially confirmed. There was a

significant relationship between TE:Trait and SEC. Conversely, there was not a statistically

significant relationship found between TE:State and SEC. Further, there was not a statistically

significant relationship found between either TE:Trait or TE:State and that teacher's interactions

with his or her school administrators. Also, there was not a statistically significant relationship

found between, and rating of, a teacher's last interaction with a colleague (negative:positive) and

that teacher's interactions with his or her school administrators.

On research question five, the hypothesis was not confirmed. There was not a

statistically significant relationship found between a trait teacher engagement and the mean

number of different instructional formats used in each class period. Further, there was not a statistically significant relationship found between state teacher engagement and the mean number of different instructional formats used in each class period.

Finally, for research question 6, there were two significant relationships between a teacher's trait engagement or state engagement and the percentage of time that the teacher uses each of the 13 instructional formats in each class period. First, there was a positive correlation between trait teacher engagement and the instructional format "test/quiz." Second, there was a negative correlation between state teacher engagement and the instructional format "housekeeping." In other words, TE:Trait covaried with the increase in the percentage of time engaged in the "test/quiz" instructional format. TE:State varied in the opposite direction of the percentage of time engaged in housekeeping.

Chapter 5. Summary, Recommendations for Future Research, and Conclusions

Introduction and Brief Summary of Key Findings

    Introduction. Teacher engagement is an effective way to discuss teachers and their commitment to their work. It is tantalizing to explore a construct that encompasses so many of the characteristics that educators and the population at large value in teachers. In this chapter, the results of this study from Chapter 4 will be compared to what was found in the literature in Chapter 2. From that comparison and further analysis, this chapter will share conclusions and implications, and make a series of recommendations for practitioners and policy makers. It will also highlight ways to study teachers and teacher engagement in future studies.

    Purpose of the study. This quantitative study sought to expand understanding of important aspects of teacher engagement. As an initial study it will hopefully facilitate the continued development of a framework for further study and measurement of teacher engagement. This will benefit practitioners and policy makers as they hire, evaluate, and support teachers.

    This study measured teacher engagement in two ways:

- as a personal trait (using the Engaged Teachers Scale or ETS administered once);

- as a state that may change over time (using an Experience Sampling Method form or ESF multiple times over the course of a work week) along with variables on instructional format and the level of interaction with an administrator. The ESF attempts to capture data about the situations of teachers in close to real time (Hektner et al., 2007, p. 93).

    Summary of key Chapter 4 results. The study sample consisted of $n = 39$ participants out of a sampling frame of 41 for a 95% response rate. Given this high response rate, the sample

looks just like the population from which it was gathered: a small independent K-8 school. The

results are realistically generalizable to the overall population of this small independent K-8

school, and, with limitations, to the broader population of similar small independent schools.

The results for research question one (RQ1: What are the trait and state teacher

engagement characteristics for grade 4-8 teachers at a small independent school?) indicated that

based on observation of dimensional trends, the participants appear to have a high level of

teacher engagement on all four dimensions of trait engagement and in the trait engagement total

score (TE:Trait average = 6.08, SD = .40) as compared with published means across various

cultures and settings (Klassen et al., 2012).

Further, to consider teacher engagement as a state, experience sampling measured

TE:State for each participant. This consisted of the mean of five days of accumulated ratings by

teachers on questions 2, 5, and 10 of the ESF with a low score of 1 and high score of 7. The

average score for TE:State was 3.54 (*SD* = .35) with a minimum of 2.94 and a maximum of 4.28.

On research question two (RQ2: To what extent is there a relationship between a

teacher's engagement when measured as a static trait and that teacher's engagement when

measured as a dynamic state?), the hypothesis that there is a positive relationship between a

teacher's engagement level when measured as a trait and that teacher's engagement level when

measured as a state was confirmed. There was a significant relationship between a teacher's

engagement when measured as a static trait and that teacher's engagement when measured as a

dynamic state.

The hypothesis (that there is a positive relationship between TE:Trait and TE:State and

SEwS) was partially confirmed for research question three (RQ3: To what extent is there a

relationship between a teacher's trait and state engagement and that teacher's social interactions

with students?). There was a significant relationship between a teacher's engagement when considered as a trait and that teacher's social interactions with students. There was not a statistically significant relationship found between a teacher's engagement measured as a state and that teacher's social interactions with students.

With research question four (RQ4: To what extent is there a relationship between a teacher's engagement and that teacher's interactions with his or her school administrators?), the hypothesis (that there is a relationship between TE:Trait and TE:State and SEC and also SEC and ESF 14) was partially confirmed. There was a significant relationship between TE:Trait and SEC. Conversely, there was not a statistically significant relationship found between TE:State and SEC. Centrally, this study did not find a statistically significant relationship between either TE:Trait or TE:State and that teacher's interactions with his or her school administrators. Also, there was not a statistically significant relationship between, and rating of, a teacher's last interaction with a colleague (negative:positive) and that teacher's interactions with his or her school administrators.

On research question five (RQ5: To what extent is there a relationship between a teacher's engagement and the mean number of different instructional formats used in each class period?), the hypothesis (that there is a positive relationship between TE:Trait and TE:State and the mean number of different instructional formats used in each class period) was not confirmed. This study did not find a statistically significant relationship between a trait teacher engagement and the mean number of different instructional formats used in each class period. Further, there was not a statistically significant relationship found between state teacher engagement and the mean number of different instructional formats used in each class period.

Finally, for research question 6 (RQ6: To what extent is there a relationship between a teacher's engagement and the percentage of time that the teacher uses each of the 13 instructional formats?), the hypothesis (that there will be at least one relationship between TE:Trait and TE:State and the percentage of time that the teacher uses each of the 13 instructional formats) was partially confirmed. There were two significant relationships between a teacher's trait engagement or state engagement and the percentage of time that the teacher uses each of the 13 instructional formats in each class period. First, there was a positive correlation between trait teacher engagement and the instructional format "test/quiz." There was also a negative correlation between state teacher engagement and the instructional format "housekeeping."

Comparison of Results to Literature

The six research questions of this study are compared to the literature that Chapter 2 reviewed. This study seeks to provide context for the findings and especially to note literature that is consistent with the findings and literature that diverges, at least in part, from the findings.

Research question 1. *What are the trait and state teacher engagement characteristics for grade 4-8 teachers at a small independent school?*

The first research question of this study sought answers to the question of how engaged grade 4-8 teachers are at a small independent school. The Engaged Teachers Scale (ETS) considers four trait engagement dimensions: cognitive engagement (CE), emotional engagement (EE), social engagement students (SEwS), and social engagement: colleagues (SEC). Cognitive engagement was measured by items 4, 8, 11, 15; Emotional engagement was measured by items 2, 5, 10, 13; Social engagement with students was measured by items 3, 6, 14, 16; Social engagement with colleagues was measured by items 1, 7, 9 and 12. The total ETS score, called TE:Trait in this study, was measured by items 1 through 16. As described in Klassen et al.

(2013), all scales on the ETS were summed and then averaged. The highest level of engagement

on the ETS scale is 7 and the lowest is 1.

Table 4 of Chapter 4 describes the engagement level across the four subscales of the ETS.

The TE:Trait average score was 6.08 (*SD* = .40) with a minimum of 5.06 and a maximum of 6.94

with a range of 1.88. Based on observation of dimensional trends, the participants in this study

appeared to exhibit high levels of trait engagement on all four dimensions and the total score

(TE:Trait).

Experience sampling was used to provide more insight into the inner, dynamic, real-time

state of a teacher's engagement. The ESF also included items on instructional formats used in

class and an item related to interactions with a school administrator. The ESF in this study was

based on an earlier model in DiBianca (2000). TE:State for each individual consisted of the

mean of five days of accumulated ratings by teachers on questions 2, 5 and 10 of the ESF with a

low score of 1 and high score of 7. The total score of TE:State was calculated by summing

questions 2, 5 and 10 and then taking the average. The average score for TE:State was 3.54 (*SD*

= .35) with a minimum of 2.94 and a maximum of 4.28. Table 2 in Chapter 4 describes the

averages for ESF questions 2, 5, and 10 in more detail.

The teachers in the population sample scored relatively high on both TE:Trait and

TE:State. The findings of this study are consistent with the literature's suggestion that teachers

at a relatively small, elite school would be likely to experience high levels of trait and state

teacher engagement. In comparison with less engaged workers, engaged employees are better

able to mobilize their own job and personal resources that, in turn, fuel future engagement

(Bakker & Bal, 2010, p. 202). Small independent schools are likely to attract highly motivated

and engaged teachers. By their very nature, these schools share five basic characteristics: self-

governance, self-support, self-defined curriculum, self-selected students, and small size

(Gaztambide-Fernandez, 2009). These all contribute to the sixth characteristic of an elite or

small independent school: a self-selecting faculty. Especially given the challenges facing

education more generally (McNair et al., 2011), independent school positions are coveted and

valuable especially for teachers that value self-direction in their work. Greater communication

around leadership and diversity issues in elite schools might also fuel teacher engagement

(Fletcher & Arnold, 2011; Wright Mills, 1956; Zweigenhaft & Domhoff, 1998).

  Research question 2. *To what extent is there a relationship between a teacher's*

engagement when measured as a static trait and that teacher's engagement when measured as a

dynamic state?

  Teacher engagement was discussed in the literature long before usable measurement

instruments became available. On one level, practitioners know an engaged teacher when they

see one. One way to evaluate the engagement of teachers authentically would be to observe

teachers in the classroom across class subjects and time periods. This would likely be

prohibitively time intensive and costly. It would be difficult to scale these observations to draw

conclusions across an entire school, district, or nation. Moreover, even if every teacher in a

school were observed once, could an administrative leader reasonably answer a question about

whether a particular teacher he or she evaluated was "an engaged teacher"?

  As interest in teacher engagement grows, high quality, reliable, and valid instruments

become available (Klassen et al., 2012). Some authors conceptualize engagement as a pervasive

state — a personal trait — that is relatively fixed despite changes in the particular work at hand

or other situational factors. This conceptualization conveniently allows for the use of one-time

surveys to measure engagement.

The most widely utilized survey of this type, the Utrecht Work Engagement Scale (UWES), has been regularly used in identifying employees who are highly engaged in their work. It is widely utilized and reliable across industries and cultures (Bakker & Bal, 2010; Bakker & Oerlemans, 2011; Bermejo-Toro et al., 2015; Bledow et al., 2011; Klassen et al., 2012). Recently, the limitations of using a general, one-time work engagement survey to study teachers have been more widely discussed (Corno & Anderman, 2015; Klassen et al., 2013). A new survey, the Engaged Teachers Scale (ETS), was developed in the tradition of the UWES but with refinements in consideration of the particular characteristics of the teaching profession. As with the UWES, the ETS measures engagement as something that is relatively static: a trait.

Despite the insistence in much of the literature that engagement at work is a persistent and pervasive affective-cognitive trait that is not focused on any particular object, event, individual, or behavior (Klassen et al., 2012; Schaufeli et al., 2006, p. 702), some more recent conceptualizations of work engagement recognize that a person's engagement fluctuates from day-to-day and week-to-week and even from task-to-task. One-time instruments cannot capture these dynamic fluctuations in a person's state (Corno & Anderman, 2015, p. 406; Sonnentag et al., 2010; Sonnentag, 2011). Unsurprisingly, there are days or weeks during which an employee feels more engaged: more vigorous, absorbed, and dedicated. Experience sampling and diary studies have shown that variations in work engagement do indeed exist (Bakker & Bal, 2010, p. 190; Sonnentag, 2003). Experience sampling can yield rich data about teacher engagement as it fluctuates during and across days (Corno & Anderman, 2015, p. 406). Previous studies such as DiBianca (2000) look at fluctuations in teacher engagement specifically and the relationships between engagement and high performance and even student learning as discussed in the literature review of this study.

Bakker et al. (2011) suggested that one of the key questions for further research is whether work engagement is an enduring trait or a state that fluctuates (Bakker et al., 2011, p. 8). The importance of being clear about whether a study is examining a "trait" or a "state" has been emphasized (Clifton & Harter, 2003, p. 121) and unclarity around this question makes academically measuring work engagement a larger challenge (Macey & Schneider, 2008, p. 5).

This study's research question two is based on the insight from the literature review of Chapter 2 that the soundest approach to the debate between measuring teacher engagement as a static trait (TE:Trait) or as a dynamic state (TE:State) is to treat them as *complementary*. This study chose to measure teacher engagement both ways, to compare the results, and to look for relationships. The literature suggested that this is necessary and provides unique perspectives on the "complex phenomenon" of engagement (Sonnentag et al., 2010, p. 28).

This study of one small independent school found that there was a significant relationship between TE:Trait and TE:State at $r = .39$, $p = 0.02$. Further, the coefficient of determination ($R^2 = .15$) determined that TE:Trait accounted for 15% of the variance in scores of TE:State. With a small n, these results indicate that further study of this phenomenon is warranted in a study with a larger n and perhaps over more work days.

The findings of research question two are consistent with the findings of Sonnentag (2003). While not a main focus of that study, it did consider the relationship between "a general tendency towards work engagement" and what it called "daily work engagement." It found, in its analysis, that trait work engagement was a significant predictor of work engagement when measured daily. Interestingly, further analysis did not suggest that trait work engagement was the determinative variable in understanding daily fluctuations in work engagement.

Additionally, the findings of this study are consistent with the correlation made in Bledow et al. (2011) between the one-time trait work engagement scale, the Utrecht Work Engagement Scale (UWES), and a short experience sampling form. As in the discussion around Sonnentag (2003), Bledow et al. (2011) was not specifically focusing on the research question being discussed in the present study. The aim of that study was to move toward "a dynamic account of work engagement by linking external affective events to internal mood states (Bledow et al., 2011, p. 1246). That study's insights included that negative events may have a positive effect on work engagement. That study's validation of its ESF (measuring state work engagement) to the UWES (measuring trait work engagement) highlights a tradition in the literature discussing the relationship between trait and state work engagement.

The findings of the present study are not entirely inconsistent with Xanthopoulou et al. (2008). That study understood the need to differentiate "general work engagement" from "state work engagement" (Xanthopoulou et al., 2008, p. 349). For that study, the authors utilized a modified subset of the UWES-17 scale to measure state work engagement and compared data to general work engagement gathered using the more frequently utilized UWES-9. However, the way in which the data analysis is presented in that study makes it challenging to compare the results with the present study.

The findings of this study do not meaningfully disagree with other findings found in the literature review. Most of the literature reviewed earlier in this study took strong positions on whether to conceptualize work engagement as either persistent or dynamic. Conceptual clarity will be important as this topic is addressed in future studies (see, for example, the discussion in Podsakoff et al., 2016). A meaningful measurement instrument relies on the construct it is measuring being correct or useful (Macey & Schneider, 2008, p. 26). Lack of clarity around a

conceptualization can lead to imprecise language and might skew the interventions planned in response to measurements of teacher engagement in a particular setting. The findings on this research question show that there is a relationship between trait teacher engagement and state teacher engagement. More reflection on how this relationship works with a larger *n* would lead to better clarification of the underlying construct.

Research question 3. *To what extent is there a relationship between a teacher's trait and state engagement and that teacher's social interactions with students?*

Teachers work in a social environment. A major part of the personal identity of a teacher is fashioned by the relationships that a teacher has at work and the ways in which the teacher interacts with others (Leiter & Maslach, 2010, p. 165; Pianta, Hamre, & Allen, 2012). In developing the Engaged Teachers Scale (ETS), Klassen et al. (2013) refined the construct of teacher engagement to include social engagement with students (referred to as SEwS in the present study). While more general conceptualizations of work engagement would naturally emphasize social connection to colleagues or to organizational units such as teams, teaching is a profession where the adult worker typically spends most of his or her day with students. The relationship between teachers and students is something that is unique to this profession. It also is particularly valued in independent schools (Gaztambide-Fernandez, 2009; Guthrie et al., 2012; McDonald et al., 2012).

This study sought to understand whether socially connected teachers are engaged teachers. It considered both TE:Trait and TE:State and the potential relationship with the SEwS factor of the ETS. There was a significant relationship between a TE:Trait and SEwS at $r = .76$, $p < 0.01$. Further, the coefficient of determination ($R^2 = .58$) determined that TE:Trait accounted for 58.0% of the variance in the scores of SEwS (see Figure 2 in Chapter 4). There

was not a statistically significant relationship found between TE:State and SEwS at $r = .20$, $p = 0.23$. Because of small n, it is difficult to obtain a statistically significant number, a common Type II error challenge in studies with small n. Results with a small n, however, may indicate a direction of the data in the non-significant .1-.2 range. This may suggest a relationship that merits further study with a larger n.

Given the internal validity of the ETS scales (Klassen et al., 2013), it is unsurprising that TE:Trait scores covary with SEwS scores. The consistency of this finding suggests that a teacher who is inclined to be more social with students is also more inclined to being engaged in his or her teaching. Since teaching uniquely values the energy spent on the creation of long-lasting, meaningful connections with students, it is valuable to know that this aspect of teacher engagement is measured consistently in this study with previous literature. Klassen et al. go so far as to say that the teacher-student relationship may be the primary way to foster student engagement and positive student outcomes (2013, p. 35).

These findings are also consistent with the research of DiBianca (2000). Positive student outcomes are traced to the teacher-student relationship so important in this conceptualization of teacher engagement (DiBianca, 2000; Klassen et al., 2013, p. 35). These findings also support the suggestions of previous research that teachers with higher self-efficacy find their identity in their connection with students (Leiter & Maslach, 2010). The feelings of affiliation that a teacher has with his or her students could even be described as an "emotional charge" for teachers (Leiter & Maslach, 2010).

These findings are also consistent with previous literature that highlighted the importance of the teacher as someone who cares and meets student needs (Corno & Anderman, 2015). Teachers commonly attribute their relationships with students as an aspect of the profession that

gives their work meaning. Teachers are called to foster and maintain close, positive relationships with students at different developmental stages (Corno & Anderman, 2015, p. 408). The student must *feel cared for* and the teacher is called to maintain communication and relationship in order to foster a caring relationship. Caring is more than a feeling: it also requires thinking and knowledge (Corno & Anderman, 2015).

A gap in the literature makes it unclear whether state teacher engagement would be particularly affected by high social connection to students (SEwS). Given the small *n* in this study, the findings in this study do suggest that the relationship between TE:State and SEwS merits further consideration with a larger population over a longer period of time. Nevertheless, the key insight of the findings for this research question is the strong correlation between TE:Trait and SEwS. This suggests a number of areas for future study and recommendations for practice that will be explored later in this chapter.

Research question 4. *To what extent is there a relationship between a teacher's engagement and that teacher's interactions with his or her school administrators?*

The important role of teachers in education suggests that any leverage available to school administrators — the leaders in schools — should be better understood in theory and utilized in practice. As teacher engagement emerges as a valid and measurable construct, leaders should consider their own work and how they might affect teacher engagement. The work of the Gallup Organization found that employee perceptions of their leaders and the future of their institutions were significantly more positive if employees felt that leaders were focused on growing employee strengths (Clifton & Harter, 2003, p. 123). Administrators can better support the experience of teachers in the classroom if they explicitly incorporate and prioritize engagement (Zhu, 2001, p. 109).

It can be challenging for leaders to remain focused on teaching, learning, and constructs such as teacher engagement. The pressure for leaders in education to "get results" (Goleman, 2000, p. 2) might cloud priorities. However, in a school, teachers are the salaried human resources most directly responsible for instruction and for promoting sustainable learning by students. Teachers are integral to the entire purpose of schools in our society. Teachers and leaders are "inextricably bound together in the transformation process" (Northouse, 2004, p. 170). Teacher engagement can be promoted in organizations by promoting a culture that values learning and creates "upward spirals" in excellent classrooms (Lee et al., 2003, p. 196).

The challenges for school leaders are magnified in competitive job markets. Administrators must exercise influence in non-manipulative ways. In a bad situation, nobody will remain a follower unless he or she makes a conscious choice *not* to do the "prudent thing" and move on to a healthier setting (Russell & Stone, 2002, p. 150). The allegiance of the follower is freely and knowingly granted – or not (Greenleaf, 2002, p. 10). Showing concern for the well-being of others is a core task of the school leader who is interested in raising work engagement levels. This kind of social interaction models a culture where learning happens at all levels and helps form a positive "community of practice" (Schmieder-Ramirez & McManus, 2007, p. xvi). All of these pressures on administrators highlight the need to consider constructs such as teacher engagement from a perspective of how an administrator affects teachers positively.

The existing conceptualizations of teacher engagement do not consider the relationship between teachers and administrators. While authors on engagement have explained that commitment and motivation result from engagement, which makes it important for administrators to cultivate it (May et al., 2004, p. 13), this has not been operationalized in a

measurement instrument. The absence of questions about this relationship on the Engaged

Teachers Scale (ETS) led this study to consider Social Engagement with Colleagues (SEC) as

one way of gaining insight into the ways that teachers interact with other employees. Teacher

beliefs and emotions are influenced by interactions with colleagues (Corno & Anderman, 2015;

Klassen et al., 2013).

This study hypothesized that there is a relationship between a teacher's engagement level

and the teacher's feelings about his or her interactions with administrators. Teachers who have

good interactions with their administrators should be more engaged. But how does this

relationship work? Does the most recent interaction a teacher has with an administrator directly

affect engagement in his or her work? In an attempt to answer this question and test the

hypothesis more directly, this study included an item on the ESF (question 14), "How has your

most recent interaction with an administrator impacted how you are feeling?"

Pearson Product Moment Correlation (PPMC) was tested for the following potential

relationships:

- TE:Trait and ESF 14

- TE:State and ESF 14

- TE:Trait and SEC

- TE:State and SEC

- ESF 14 and SEC

There was a significant relationship between TE:Trait and SEC at $r = .61$, $p = 0.04$. As

SEC is one of the four factors that makes up TE:Trait on the ETS, this is expected. On the other

hand, this study did not find a statistically significant relationship between TE:State and SEC at r

$= .06$, $p = 0.74$.

PPMC was tested to see if there was a relationship between either type of teacher engagement and ESF 14 (rating of a teacher's last interaction with an administrator). For this study's n of 39, there was no statistically significant relationship between TE:Trait and ESF 14, at $r = -.03$, p = .88. Similarly, there was no statistically significant relationship between TE:State and ESF 14 at $r = .05$, p = .76. Any effort to establish a relationship between the state engagement of a teacher and the last interaction with an administrator using these tools would almost certainly require a larger n to reject the null hypothesis of no relationship.

These findings should be juxtaposed with the discussion in this study's literature review in Chapter 2. The significant relationship between TE:Trait and SEC is supported by the literature, especially Klassen et al. (2013). Engagement becomes a contagious social phenomenon that transfers the engaged worker's positivity and productivity to relationships with colleagues (Bakker & Oerlemans, 2011, p. 190). In the best scenarios, harmony occurs between people in their jobs and the jobs themselves (Maslach & Leiter, 1997).

The literature review expected a relationship between teacher engagement and the quality of interactions with administrators. Management interventions consider workers within a social context. Employees place great value on their interactions with others in the workplace (Leiter & Maslach, 2010, p. 165). Administrators and other leaders can support the experience of teachers in the classroom and, correspondingly, teacher engagement (Zhu, 2001, p. 109). Social connection with both peers and supervisors has been considered a critical job resource understood to affect teacher engagement along with other teacher well-being indicators (Bakker & Bal, 2010; Bermejo-Toro et al., 2015, p. 17; Schaufeli & Bakker, 2004; Schiff et al., 2015; Sonnentag et al., 2010). Social support from colleagues and supervisors is an especially important resource to consider in the job-resource model (Bermejo-Toro et al., 2015, p. 9).

Changes in a school to promote engagement, and decrease burnout, require effort on the part of both employer and employee (Salanova et al., 2005).

When comparing SEC and ESF 14, there was no significant relationship at $r = .06$, $p = 0.74$. In hindsight, additional testing of the validity of ESF 14 should have been performed in advance of the study's data collection. Additional review of the literature in other fields may have revealed a more usable scale or set of questions to understand interactions with a leader in an educational setting, such as Winfield's multidimensional support scale (discussed in Bermejo-Toro et al., 2015, p. 9). That scale demonstrated high reliability both in terms of social support from colleagues and social support from the school administration team.

In further reflecting on the design and findings around RQ4, it is not surprising that the results are so inconclusive in comparison to the richness of the literature and the leadership theory behind the relationship of workers and their leaders. By its design, ESF 14 is unable to capture the essential long-term relational character of interactions between administrators and teachers. The nature of these relationships and, correspondingly, the interactions with administrators, is dependent on so many within-administrator and within-system variables that generalizations proved difficult to make even in the context of this study's focus on teacher engagement.

Research question 5. *To what extent is there a relationship between a teacher's engagement and the mean number of different instructional formats used in each class period?*

This study hypothesized that there is a significant positive relationship between TE:Trait and TE:State and the mean number of different instructional formats used in each class period. Student engagement has been tied to learning and the classroom experience of students in numerous previous studies (e.g., Csikszentmihalyi & Schneider, 2000, p. 162; Guthrie et al.,

2012; Hagenauer, Hascher, & Volet, 2015; Pianta et al., 2012; Shernoff et al., 2016; Shernoff, 2013). Teacher engagement has not been studied as systematically or thoroughly as student engagement. A connection between a teacher's own internal states, such as motivation or engagement, and student learning has been suggested in the past (DiBianca, 2000; Roth et al., 2007).

Pearson Product Moment Correlation (PPMC) was used to test if there was a relationship between both TE:Trait and TE:State and the mean number of different instructional formats used in each class period. There was not a statistically significant positive relationship found between TE:Trait and the mean number of different instructional formats used in each class period at $r =$ .11, $p = 0.52$. There was also not a statistically significant positive relationship between TE:State and the mean number of different instructional formats used in each class period at $r = -$.26, $p = 0.11$. See Table 7 in Chapter 4 for detail.

As noted, because of small n, it is difficult to obtain statistically significant correlations. The findings, though not statistically significant, do suggest alignment with the previous literature reviewed in this study. Purposefully incorporating students in faculty efforts has been shown to promote student engagement (Chen et al., 2008). There may be a reciprocal relationship between teachers being more interactive with students and student learning (Hagenauer et al., 2015; Roth et al., 2007). A teacher who conveys disinterest, low commitment, and little enthusiasm for his or her work is likely to find students responding in kind (Rutter & Jacobson, 1986; Zhu, 2001).

The fifth research question of this study builds on a research question in DiBianca (2000). In that study, students showed positive levels of engagement with particular formats (DiBianca, 2000, p. 120). Novelty may have played a role in some of the differences in

engagement levels. Student engagement seems to have been affected most meaningfully when the type of instructional format was divergent from a traditional classroom norm (DiBianca, 2000, p. 124). This and other previous research suggested that more engaged teachers would use more instructional formats. This study sought to study the relationship between teacher engagement itself and the mean number of different instructional formats used during each class period.

The variable number of instructional formats used in a class session proxies for the quality of a teacher's classroom, which is known to affect engagement and learning (Guthrie et al., 2012; Hoglund et al., 2015; Pianta et al., 2012; Shernoff et al., 2016). Technological innovations are disrupting traditional practices and perhaps limited understandings around student engagement (e.g., Hamilton, 2013a; Jaeger et al., 2012; Moore, 2012; Shernoff, 2013) in ways that push the need for research into a more complete picture of how teacher engagement, student engagement, and instructional practices are related.

Research question 6. *To what extent is there a relationship between a teacher's engagement and the percentage of time that the teacher uses each of the 13 instructional formats?*

The sixth research question sought answers around the question, "to what extent is there a relationship between a teacher's engagement and the percentage of time that the teacher uses each of the 13 instructional formats?" While the fifth research question sought to look at the relationship between teacher engagement and the mean number of different instructional formats used in each class period, this research question endeavored to better understand the relationship between a teacher's engagement level and the percentage of time that the teacher uses each of the 13 instructional formats identified in the experience sampling form (ESF) utilized in this study.

Which instructional formats are used most by engaged teachers? As with the fifth

research question, this research question builds on issues raised in DiBianca (2000). The 13

instructional formats in this study replicate the formats utilized in DiBianca (2000). In that

previous research, students showed positive levels of engagement with particular formats

(DiBianca, 2000, p. 120). For this study's sixth research question, it was hypothesized that there

would be at least one significant relationship between a teacher's engagement level and the

percentage of time that the teacher uses each of the 13 instructional formats.

Pearson Product Moment Correlation (PPMC) was used to test if there was a significant

relationship between TE:Trait and TE:State and the percentage of time that the teacher uses each

of the 13 instructional formats measured in ESF item 1. There was a significant positive

correlation between TE:Trait and the instructional format "test/quiz" at $r = .35$, $p = 0.03$. There

was also a negative correlation between TE:State and the instructional activity of

"housekeeping" at $r = -.33$, $p = 0.04$. As TE:State increased, respondents spent a smaller

percentage of time engaged in "housekeeping." These relationships are described in more detail

in Table 8 and Figures 4 and 5 of Chapter 4.

DiBianca (2000) discovered unfortunate disconnects between the promotion of student

engagement and data around teacher engagement and instructional formats. There was a conflict

in DiBianca's data between instructional formats that are teacher-paced and formats that are

student-paced. It turned out that everyone in education liked to be in charge of the activity at

hand: "teachers are like students: their engagement is higher when they are in control" (2000, p.

152). Paradoxically, in some cases, when teachers are more active in their lessons, student

engagement seemed to decrease (DiBianca, 2000, p. 153). Teachers and students even had

difficulty agreeing about which classes were the most engaging (DiBianca, 2000, p. 154).

DiBianca then explored the relationships between the diversity of instructional formats and student engagement (DiBianca, 2000, p. 118). That study's third research question discussed the importance of the enthusiasm that the teacher had for the day's instruction. Teacher engagement is influenced by the "structure of a lesson, the preparation involved, the dynamics between teacher and student and the ongoing maintenance of energy required of the teacher to sustain momentum" (DiBianca, 2000, p. 151). That study did find relationships between instructional formats and teacher engagement. The differences in levels of engagement for each instructional format were meaningful. Teachers were the most engaged when they were in charge. Teachers reported the highest levels of engagement during demonstration, discussion, review problems/questions and lecture. They were similarly alert and engaged during student presentation and computer work. Teachers reported the lowest levels of engagement during seatwork, test/quiz, and video/film formats (DiBianca, 2000, p. 152).

DiBianca's (2000) results related to student engagement replicate the previous findings in Stodolsky (1988). This naturally leads to the conclusion that more student-centered activities are ideal in raising student engagement; but not teacher engagement.

This conflicts with the finding of the present study that the instructional format of "test/quiz" was significantly related to TE:Trait. The "test/quiz" format was highlighted by DiBianca as the format where teachers reported the lowest levels of engagement. DiBianca (2000) had suggested that the classrooms in his study generally taught using more "traditional" formats with almost no element of student choice. Yet it is unknown whether the "test/quiz" format was understood to have reflected both summative and formative assessments or summative only. Indeed, in this study's setting, it is unknown what a "test/quiz" looked like. Among other findings, TE:State trended lower when housekeeping was the activity of the day.

As developed by DiBianca (2000) in the discussion above, and by the finding that "test/quiz" varied with higher engagement in this present study, teacher engagement may not be the most helpful measurement when evaluating teaching styles for success in student outcomes. Student-centered activities, where students are in control, might not be the most engaging for teachers. It may be that teacher professional development should emphasize new kinds of challenges or pedagogical activity by teachers during student-centered activities, in contrast to the more directive activities traditionally associated with teaching.

A limitation of the present study is that the instructional formats chosen in DiBianca (2000), and replicated in this study, are representative of an earlier era in the development of classroom practices. Once-common approaches may not be widespread or traditional, today. It is widely understood that different classes, subjects, and learning exercises affect engagement (Guthrie et al., 2012; Pianta et al., 2012; Shernoff et al., 2016). Now widely accepted ways of managing a classroom are missing from DiBianca's list of instructional formats. The creation of collaborative learning environments is critical to the creation of classrooms that intentionally foster student engagement (Guthrie et al., 2012). Facilitating learning, in ways that increase student direction of learning, challenges the kind of teaching that may rely on one format, such as lecturing (Pianta et al., 2012). Teachers can no longer see their role as being curators of knowledge. Instead, teaching is becoming more like research supervising, mentoring, and guiding (Harland, 2003; Pianta et al., 2012; Shernoff et al., 2016). Teachers must become expert in facilitating learning. Perhaps this kind of fluid adjustment to new roles is easier for an engaged teacher. Future studies will benefit from examining this question in more detail with more nuanced consideration of pedagogy and instructional formats.

New Contributions to the Literature

The research questions of this study build on insights into teacher engagement in previous literature. Aspects of this study replicate previous literature but the findings here point to new contributions that this study is making to the literature. These new contributions center on four major themes:

- The relationship between TE:Trait and TE:State

- Teacher engagement and social interactions with students

- Teacher engagement and interactions with administrators (leaders)

- The relationship between teacher engagement and instructional formats

The relationship between TE:Trait and TE:State. As discussed earlier in this study, work engagement has most frequently been conceptualized as a pervasive personal strait. This has led to the widespread usage of one-time surveys such as the Utrecht Work Engagement Scale (UWES). This study measured TE:Trait using a successor of the UWES designed specifically for teachers, the Engaged Teachers Scale (ETS). It also considered teacher engagement as a dynamic trait that changes over time. Experience Sampling Method (ESM) aids researchers in tracking the inner experience of participants as it changes over time. Using an experience sampling form (ESF) based on the form in DiBianca (2000), the teacher engagement of participants was tracked over time and averaged. While some previous studies did combine one-time surveys and experience sampling forms, this study is unique in its use of both the Engaged Teachers Scale (ETS), a scale developed specifically for teachers, and experience sampling method to consider teacher engagement. This contributes to the literature in adding a valid and reliable way to compare and contrast trait teacher engagement with the dynamic inner experience of engaged teachers.

Teacher engagement and social interactions with students. The Engaged Teachers Scale (ETS) developed a sub-scale of "social engagement" to highlight the interactions between students and teachers and the relationship between teacher engagement and those interactions (Klassen et al., 2013). As one very recent study pointed out, the scale of Klassen et al. highlights that teacher behavior contributes to positive student relationships (Hagenauer et al., 2015). This study confirmed a significant relationship between TE:Trait and SEwS. This is to be expected given that SEwS is a subscale of TE:Trait. Conversely, the relationship between TE:State and SEwS at $r = .20$, $p = 0.23$ was not statistically significant. Yet, in considering this relationship, this study brings deeper consideration to the interplay between a particular moment in time, the interactions of teachers with students, and the engagement of those teachers. Since many schools highlight the relationships that are built up between teachers and students, any insights the field can gather on intensifying those relationships is an important contribution.

Teacher engagement and interactions with administrators. The Engaged Teachers Scale (ETS) of Klassen et al. (2013) added the important factor of social engagement to the conceptualization of teacher engagement. It created factors to measure social engagement with colleagues (SEC) and social engagement with students (SEwS). This study attempted to add consideration of the teacher's social engagement with administrators. This is an important contribution to the literature. On this question, the findings of this study were not statistically significant and, in hindsight, the design of the study lacked the ability to make generalizations because of the many within-administrator and within-system variables present. Yet, leadership theory and theory about teachers require continued reflection and analysis of the ways administrators impact teacher engagement. This study provides ways for theoreticians and practitioners to further develop the research question and to develop increasingly valid and

reliable instruments. This will bring further insight to questions around how administrators

impact teacher engagement. The melding of discussion around teacher engagement and

leadership theory has the potential to positively impact both theory and practice.

The relationship between teacher engagement and instructional formats. Previous

literature discussed the relationship between instructional formats and teacher engagement

(DiBianca, 2000; Guthrie et al., 2012; Stodolsky, 1988). This study attempted to better

understand the relationship between trait teacher engagement (TE:Trait), state teacher

engagement (TE:State) and the use of instructional formats. Research question five sought to

find a relationship between the diversity of teaching formats and teacher engagement. It did this

by considering the mean number of instructional formats in each class. Research question six

sought to understand the relationships between a teacher's engagement (TE:Trait and TE:State)

and the percentage of time each format was used. In terms of the reviewed literature, this is the

first study that has considered instructional formats in a small independent school in relation to

teacher engagement. Indeed, there are few academic studies that consider the type of instruction

happening in small independent schools. This study slavishly followed the wording of DiBianca

around instructional formats (2000) to make it easier to compare and build on those results. This

may have resulted in the findings being less interesting or relevant for the study setting. But the

format of the study — using the ETS and an ESF — contributes to the literature and provides

fascinating pathways for future study (e.g., Shernoff et al., 2016).

Alignment with Theoretical Framework

This study relied on a theoretical framework of work engagement first conceptualized by

Kahn (1990) as the harnessing of organizational members' selves to their work roles. Engaged

workers are immersed in the cognitive, emotional, and physical dimensions of work. Teacher

engagement is a refinement of work engagement that acknowledges the unique situation and role that teachers have in their work.

The theoretical framework of teacher engagement fits the findings of this study in very appropriate ways. Across the six research questions, the findings suggest that teacher engagement can be measured and discussed in ways that are consistent with the characteristics of the teacher engagement framework, especially as refined by Klassen et al. (Klassen et al., 2013). Still, there are other theoretical frameworks that may explain the findings in equally compelling ways. The findings of this study tend to support the idea that aspects of a teacher's work are influenced meaningfully by his or her personal traits. Constructs such as teacher motivation or autonomy support may provide equally helpful lenses into the research questions. Teacher motivation highlights the desire to teach, and the interpersonal style of teachers as they relate to students (Reeve & Su, 2014; Roth et al., 2007). It could explain how teachers interact with students from the vantage point of moving students towards types of learning that are more autonomous. Research questions five and six of this study could have benefited from a comparison with a framework like teacher motivation or even self-efficacy. Perhaps one of these constructs would have helped clarify the design of these research questions and the instruments utilized to shed light on the research questions.

The findings of this study suggest that the teacher engagement construct should better encompass the characteristics of being both a personal trait and a dynamic state that changes over time. In considering research questions one and two, teacher engagement could guide theoreticians and practitioners to better delineate between these two ways of understanding the inner state of teachers.

Trait teacher engagement (TE:Trait) seems to better explain the relationships that teachers have with students, colleagues, and perhaps administrators (research questions three and four). Much more work is required on the relationship with administrators to integrate the complex nature of the teacher-administrator relationship into the teacher engagement construct.

The teacher engagement construct should include more specific theory about the kind of teaching that an engaged teacher does and the related impact on student learning. Concern for student learning is an implicit priority for educators, as discussed in the literature review of this study. Research questions five and six point to a teacher having an incredible level of control over what his or her classroom looks like. The quality or design of the classroom influences student learning and engagement. Teacher engagement would be a more usable and actionable construct if it consistently explained or predicted how an engaged teacher actually teaches. Teacher engagement would be an even more powerful construct if the implications for student learning, discussed throughout this study, were more explicit.

Conclusions and Implications

This quantitative study sought to deepen the understanding of teacher engagement. It is a study that will allow for continued development of the questions it has raised and the framework for studying and measuring teacher engagement. Teacher engagement is a powerful construct for observing, measuring and interpreting teacher effort. Teachers impact the learning of their students in ways that are multifaceted and complex. When students feel connected to their teachers, it is assumed that student engagement and learning outcomes are high.

This study addressed six research questions related to teacher engagement. These research questions, taken in total, add to the way teacher engagement is conceptualized and

discussed in the literature. As importantly, the results of this study raise implications for leaders

and teachers as they consider the educational environments they steward.

One controversy present in the literature is whether to consider teacher engagement as a

trait or as a state. On the one hand, teacher engagement has been regularly conceptualized as a

pervasive personal trait. When seen in this way, a leader can ask about a teacher, "Is she an

engaged teacher?" On the other hand, a minority of the literature – though growing in recent

years – suggests that teacher characteristics like teacher engagement are internal states or

experiences that dynamically fluctuate over time. A teacher can have a "good day" or a "bad

day" and similarly can find himself or herself more engaged or less engaged depending on

external and internal factors. Considered in this way, a leader might ask about a teacher, "How

engaged is he in his teaching, today?" This controversy has important consequences in theory

and in practice.

In response to research question one, this study found that teachers at a small independent

school were very engaged when measured as a trait (TE:Trait). The teachers' state engagement

(TE:State) fluctuated but was relatively high on average – though not quite as high as trait

engagement. This sets a baseline for comparing this study's small independent school with other

kinds of schools and settings in the future.

Research question two considered the relationship between TE:Trait and TE:State. There

was a significant relationship between a teacher's engagement when measured as a static trait

and that teacher's engagement when measured as a dynamic state. The existence of a

relationship between a teacher's trait engagement and state engagement leads to a suggestion that

the controversy mentioned above can be addressed by bringing together the two understandings

of teacher engagement to positively impact practice. A leader that seeks to have the most

engaged teachers in the classroom could reasonably appreciate both the trait and state

characteristics of teacher engagement. Yet, when facing questions of hiring and retention, it

could be useful to hire on the basis of trait engagement since that is a cheaper and faster way to

evaluate a potential teacher's engagement.

Research questions three and four consider social engagement of teachers with their

colleagues and students. This builds on the research of Klassen et al. (2013). It is important for

the ETS to be utilized in a number of settings. While highly validated, the ETS has not

previously been applied to an independent school setting. There were significant relationships

between TE:Trait and social engagement with both colleagues (SEC) and students (SEwS) in the

study population. The same significance was not found when considering TE:State in relation to

SEC and SEwS. This suggests that more study is needed to better understand whether there is a

relationship between social engagement and how engaged a teacher is in a moment.

This study contributes to the organizational leadership discipline and to the study of

teacher engagement by adding a consideration of social engagement with administrators. The

role of a leader in today's innovative schools revolves around supporting the teachers who are

directly facilitating learning in the classroom. As pressures on educators and leaders grow, the

need for leaders to have refined tools available to improve outcomes grows in kind. This study

sought to use a proven technique for analyzing the inner dimensions of experience, Experience

Sampling Method, to add richness to the consideration of the role of school administrators in

promoting student engagement. The study did not find a significant statistical relationship

between the teacher's interactions with his or her school administrators and either TE:Trait or

TE:State. Despite this finding, melding teacher engagement and leadership theory adds to the

teacher engagement framework in a way that will be increasingly important to develop and clarify in both theory and practice.

At the core of the school experience is classroom instruction. Surprisingly, studies of teacher engagement have rarely considered what happens in instruction as it relates to teacher engagement. Certain notable exceptions, especially DiBianca (2000) paved the way for this study to ask research questions five and six. If theory and practice continue exploring teacher engagement, it will be critical to explore how classroom activities are related to teacher engagement. This will be essential across different kinds of school environments, including small independent schools. This study did not find a statistically significant relationship between teacher engagement and the mean number of different instructional formats used in class period. This finding will require refinement of the question or a reconsideration of the appropriate framework; this is discussed further, below. The findings around research question 6 were surprising. Teachers who used the instructional activity or format "test/quiz" exhibited higher trait teacher engagement. State teacher engagement was lowest when teachers were engaged in "housekeeping." Understanding how classroom activities and teacher engagement might be related adds depth to the conversation of teacher engagement.

Limitations of this Study and Recommendations for Future Research

The findings of this study illuminate the construct of teacher engagement in ways that suggest tantalizing opportunities for future research. Teacher engagement is linked to increased job satisfaction, workplace productivity, and student engagement in schools. It is a construct that merits further research study. The findings of this study do not meaningfully disagree with other findings found in the literature review. Most of the literature reviewed earlier in this study took strong positions on whether to conceptualize work engagement as persistent or dynamic.

Conceptual clarity will be important as this topic is addressed in future studies. A meaningful measurement instrument relies on the construct it is measuring being correct or useful (Macey & Schneider, 2008, p. 26; Podsakoff et al., 2016). Unclarity around a conceptualization can lead to imprecise language and might skew the interventions planned in response to measurements of teacher engagement in a particular setting. The findings on this research question show that there is a relationship between trait teacher engagement and state teacher engagement. More reflection on how this relationship works with a larger population would lead to better clarification of the underlying construct.

Design of the study: population. The research questions of this study are centered on a small independent K-8 school. As indicated previously in Chapter 4, many of the statistically non-significant findings still merit further study with a larger population. The results of this study are currently only generalizable to the small independent K-8 school. This is appropriate for an initial study, but for more generalizable results, future studies should consider designs that study multiple schools. Schools with larger teacher populations may yield richer data. Considering different geographies, school cultures, and types of school (e.g., public schools vs. independent schools) would be of interest.

Length and frequency of the ESF. Given the findings of this study, and given what the literature says, experience sampling method (ESM) is a fruitful way to explore the inner experience of teachers. However, ESM requires a high level of commitment from teachers to ensure adequate participation. As discussed in the literature review, researchers must balance the length of the survey (how long it takes to fill out the ESF) and how many "signals" are sent (how many submissions are required). The design of this study sought to find a good balance that was consistent with the review of previous literature. Future studies would benefit from study design

that somehow solicited buy-in for a longer timeframe. The ESF should be designed to only ask the most critical questions.

Measuring state teacher engagement. As discussed in the literature review and in the analysis of the findings, state teacher engagement (TE:State) is an essential aspect of teacher engagement overall. The state of every employee changes due to internal and external influences throughout the workday. The way teachers experience work suggests that this is likely to be the case even more in the lived experience of teachers. There is a gap between the theory discussed in Chapter 2 and the results found in this study. Given the results of this study, it is evident that the field would benefit greatly from a validation study to ascertain the best questions for an ESF seeking to measure state teacher engagement. A study could take questions from the ETS and validate them with the ETS, UWES, and perhaps other instruments that measure conceptual frameworks that are similar to work engagement. A new set of scales to measure state teacher engagement should explicitly include social engagement with colleagues and students like the ETS. Further, leadership studies in education will benefit from a validated scale on the ESF related to social engagement with administrators. These inclusions should be balanced against the need to keep the ESF as short as is practicable.

Quantifying the quality of classroom instruction. This study sought to bring consideration of classroom instructional formats to the teacher engagement construct. It did this by following DiBianca (2000) as closely as possible. Future studies will benefit from further reflection on the best ways to quantify the kind of teaching and learning activities that are valued by practitioners. The variable number of number of instructional formats used in a class session proxies for the quality of a teacher's classroom, which is known to affect engagement and learning (Hoglund et al., 2015). Some studies have addressed these topics but gaining more

clarity about the relationship between teacher engagement, student engagement, and instructional

practices will benefit the field. The list of instructional formats in DiBianca (2000) and this

study is weighted towards the kinds of instructional formats one might expect to find in a large

public high school more than a decade ago. Today's small independent schools value

instructional formats that do not neatly fit the categories in this study's ESF. It might even be

valuable, in a larger study, to add a component of classroom observation or to validate an ESF

question on instructional formats with classroom observation.

Other recommendations. Future research studies should be extremely careful in

conceptualizing work engagement. As discussed earlier in this study, there are large questions

around consistent use of terminology. Questions of terminology affect the conceptualizations

related to work and teacher engagement. The debate in the literature between trait and state

work engagement is one example of an issue that will benefit from research questions that are

very precise. Less addressed in the present study are questions around the factors that comprise

teacher engagement. This study implicitly resolved these questions in its choice of usable

instruments, especially the Engaged Teachers Scale (ETS). The field will benefit from further

refinement of the teacher engagement construct.

Policy and Practitioner Recommendations

At a state and national level, leaders in education should expend energy and time on ways

to positively affect the inner state of teachers, with more explicit attention paid to teacher

engagement. Human resource costs are the highest line item in most budgets. Any lever

available to policy makers should be utilized. When considering schools as "successes" or

"failures," policy makers and the popular media focus purely on student outcomes. The impact

of this on the kinds of standardized testing that occur in public schools and the resulting effect on

pedagogy is beyond the scope of this study. This study does suggest, however, that teacher engagement could be a valuable additional way to measure the work of teachers. An engaged teacher is so immersed in his or her work that it may be possible to effect change even in environments that are less than ideal.

This study also has important ramifications for administrators of local districts and schools: complex systems in their own right. Leadership theory and theory about teachers require analysis of the ways administrators impact teacher engagement. It can be difficult to understand what to prioritize in decision-making about school improvement. In the critical area of recruitment and hiring, this study does lead to recommendations for school administrators.

In particular, the finding of this study that teachers who exhibit higher trait teacher engagement also exhibit higher social engagement with students is valuable. The ability of a teacher to form positive relationships with students is a sought after trait. Social engagement with students is considered a predictor of student outcomes. A teacher's personality and inclinations – his or her traits – are indeed valuable factors to consider in hiring and placement. Perhaps potential teachers should take the ETS as part of their preparation and hiring processes?

The Engaged Teachers Scale (ETS) of Klassen et al. (2013) added the important factor of social engagement to the conceptualization of teacher engagement. It created factors to measure social engagement with colleagues (SEC) and social engagement with students (SEwS). This study attempted to add consideration of social engagement with administrators. The role of a leader in today's innovative schools revolves around supporting the teachers who are directly facilitating learning in the classroom. Teachers and administrators are lifelong adult learners and they need to be approached with a set of principles that are specific to adults (as described in Knowles et al., 2011). The leader must take a long view in building teacher engagement (Park et

al., 2016). School leaders work to give teachers more resources to encourage critical thinking, inspire, and facilitate learning. By appreciating each adult individually, the leader approaches a teacher as someone who can provide service for that teacher rather than as an "authority." Purposeful listening to teachers and focus on them forms the basis of thoughtful conversations that build teacher engagement.

This study was not wholly successful in identifying a specific scale to measure interactions of an administrator with a teacher. Yet, the insights of this study do suggest the value of care and attention to the quality of interactions an administrator has with teachers. As discussed in more detail in the literature review, servant leadership and related leadership theory will serve the administrator well if a goal is higher teacher engagement over time. Leaders should value effectiveness over time; not quick fixes (Autry, 2004, p. 116; Park et al., 2016). Regular communication with teachers and involving school faculties and individual teachers in decision making in ways that are genuine and significant (Berger, 2003, p. 150) will potentially lead to higher teacher engagement. Focusing on the follower, the teacher, is the hallmark of other powerful leadership theories as well (e.g., Maccoby, 2004). The impact of an administrator's words might well be greater than the intent.

Final Summary

Teachers are central to the experience of children in schools and their influence on classroom learning is pivotal. The engagement of teachers in their work is linked to increased job satisfaction, workplace productivity, and even student engagement. The cost of teaching personnel is the highest expense in education budgets. Work engagement in the general workforce is frequently studied. Teaching is a specific profession with characteristics that make it important to consider teacher engagement distinctly from general work engagement. Despite

all of the reasons that teacher engagement should be fostered and measured, it is not

systematically monitored in educational settings. An expanding appreciation of teacher

engagement presents opportunities for leaders to improve the work environment of teachers and

promote positive change to the settings where teachers directly impact on learners.

Previous literature on teacher engagement was reviewed to contribute to the knowledge

of issues around this important topic. This study attempted to delineate and define work

engagement, generally, and teacher engagement specifically. It aimed to illuminate the

importance of identifying and understanding when a teacher is engaged. In a review of relevant

leadership theory, this study suggested ways school administrative leaders and policy makers

could use teacher engagement to improve the teaching and learning that takes place in their

schools.

This study measured teacher engagement at a small independent K-8 school in two ways:

(a) as a personal trait (using the Engaged Teachers Scale or ETS administered once); (b) as a

state that may change over time (using an experience sampling method form or ESF multiple

times over the course of a work week). The ESF also measured variables on instructional format

and the level of interaction with an administrator.

The findings of this study described the teacher engagement of the population sampled.

It weighed the relationship between trait teacher engagement and state teacher engagement and

found a significant relationship between a teacher's engagement when measured as a static trait

and that teacher's engagement when measured as a dynamic state. The study found a significant

relationship between trait teacher engagement and that teacher's social interactions with students.

It did not find a similarly significant relationship when considering state teacher engagement.

This study also considered the relationship between teacher engagement and a teacher's last

interaction with an administrator. It also considered a teacher's social engagement with colleagues. The study explored the relationships between teacher engagement and the mean number of different instructional formats used in each class period. Finally, the study considered the relationships that might be present between teacher engagement and the percentage of time that a teacher uses varying instructional formats in a class.

Ultimately, this study considered the ramifications of the study's findings and offered recommendations for future work. Future studies will benefit from the findings of this research, the insights garnered from studying both trait and state teacher engagement using two complementary methods, and from the weaknesses of this study. In particular, increasing clarity around instructional formats and how they are related to teacher engagement will be valuable for the field. Future studies will profit from increasing clarity around teacher engagement and how it works in theory and practice. This study also offered suggestions to policy makers and administrators as they seek to improve education, the lot of teachers, and the learning environments our children experience.

REFERENCES

Aram, J. D., & Salipante Jr, P. F. (2003). Bridging scholarship in management: Epistemological

reflections. *British Journal of Management*, *14*(3), 189-205. doi:10.1111/1467-

8551.00374

Autry, J. A. (2004). *The Servant Leader: How to build a creative team, develop great morale,*

and improve bottom-line performance. New York, NY: Three Rivers Press.

Bakker, A. B. (2011). An evidence-based model of work engagement. *Current Directions in*

Psychological Science, *20*(4), 265-269. doi:10.1177/0963721411414534

Bakker, A. B., Albrecht, S. L., & Leiter, M. P. (2011). Key questions regarding work

engagement. *European Journal of Work and Organizational Psychology*, *20*(1), 4-28.

doi:10.1080/1359432x.2010.485352

Bakker, A. B., & Bal, M. P. (2010). Weekly work engagement and performance: A study among

starting teachers. *Journal of Occupational and Organizational Psychology*, *83*(1), 189-

206. doi:10.1348/096317909x402596

Bakker, A. B., Hakanen, J. J., Demerouti, E., & Xanthopoulou, D. (2007). Job resources boost

work engagement, particularly when job demands are high. *Journal of Educational*

Psychology, *99*(2), 274-284. doi:10.1037/0022-0663.99.2.274

Bakker, A. B., & Oerlemans, W. (2011). Subjective well-being in organizations. In K. S.

Cameron & G. M. Spreitzer (Eds.), *The Oxford handbook of positive organizational*

scholarship (pp. 178-189). New York, NY: Oxford University Press.

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning.

    Educational Psychologist, *28*(2), 117-148. doi:10.1207/s15326985ep2802_3

Bass, B. M. (1996). Theory of transformational leadership redux. *The Leadership Quarterly*,

    6(4), 463-478. doi:10.1016/1048-9843(95)90021-7

Batt, R. (2002). Managing customer services: Human resource practices, quit rates, and sales

    growth. *Academy of Management Journal*, 587-597. doi:10.2307/3069383

Bennett, P. C., Trigg, J. L., Godber, T., & Brown, C. (2015). An experience sampling approach

    to investigating associations between pet presence and indicators of psychological

    wellbeing and mood in older Australians. *Anthrozoös*, *28*(3), 403-420.

    doi:10.1080/08927936.2015.1052266

Berger, R. (2003). *An ethic of excellence: Building a culture of craftsmanship in schools.*

    Portsmouth, NH: Hennemann.

Bermejo-Toro, L., Prieto-Ursúa, M., & Hernández, V. (2015). Towards a model of teacher well-

    being: personal and job resources involved in teacher burnout and engagement.

    Educational Psychology, *36*(3), 481-501. doi:10.1080/01443410.2015.1005006

Betts, B. (2010, August). Social Is Not An Option. *Learning Solutions Magazine.* Retrieved from

    http://www.learningsolutionsmag.com/articles/506/social-is-not-an-option/pageall

Bledow, R., Schmitt, A., Frese, M., & Kühnel, J. (2011). The affective shift model of work

    engagement. *Journal of Applied Psychology*, *96*(6), 1246-1257. doi:10.1037/a0024532

Borkenau, P., & Ostendorf, F. (1998). The Big Five as states: How useful is the five-factor

    model to describe intraindividual variations over time? *Journal of Research in*

    Personality, *32*(2), 202-221.

Branden, N. (1995). *The six pillars of self-esteem.* New York, NY: Bantam.

Bryman, A. (1999). Leadership in organizations. In S. R. Clegg, C. H. Hardy, & W. R. Nord

(Eds.), *Managing organizations: Current issues* (pp. 26-42). London, United Kingdom:

SAGE Publications Ltd.

Buckley, J. E. (2002). Rankings of full-time occupations, by earnings, 2000. *Monthly Labor

Review*, *125*, 46-57. Retrieved from https://www.bls.gov/opub/mlr/2002/03/ressum.pdf

Bulger, M., Mayer, R., Almeroth, K., & Blau, S. (2008). Measuring learner engagement in

computer-equipped college classrooms. *Journal of Educational Multimedia and

Hypermedia*, *17*(2), 129-143. Retrieved from https://ssrn.com/abstract=1859239

Bunderson, J. S., & Thompson, J. A. (2009). The call of the wild: Zookeepers, callings, and the

double-edged sword of deeply meaningful work. *Administrative Science Quarterly*,

54(1), 32-57. doi:10.2189/asqu.2009.54.1.32

Buttner, S., Pijl, S. J., Bijstra, J., & van den Bosch, E. (2015). Personality traits of expert teachers

of students with behavioural problems: a review and classification of the literature. *The

Australian Educational Researcher*, *42*(4), 461-481. doi:10.1007/s13384-015-0176-1

Caesar, V., & Caesar, C. A. (2006). *The high achiever's guide to happiness.* Thousand Oaks, CA:

Corwin Press.

Cameron, K. S., Dutton, J. E., & Quinn, R. E. (2003). *Positive organizational scholarship:

Foundations of a new discipline.* San Francisco, CA: Berrett-Koehler.

Carson, R. L., Weiss, H. M., & Templin, T. J. (2010). Ecological momentary assessment: a

research method for studying the daily lives of teachers. *International Journal of

Research & Method in Education*, *33*(2), 165-182. doi:10.1080/1743727X.2010.484548

Chaplin, W. F., John, O. P., & Goldberg, L. R. (1988). Conceptions of states and traits:

      Dimensional attributes with ideals as prototypes. *Journal of Personality and Social*

      Psychology, *54*(4), 541-557. doi:10.1037/0022-3514.54.4.541

Chen, G., Gully, S. M., Whiteman, J. -A., & Kilcullen, R. N. (2000). Examination of

      relationships among trait-like individual differences, state-like individual differences, and

      learning performance. *Journal of Applied Psychology*, *85*(6), 835-847. doi:10.1037/0021-

      9010.85.6.835

Chen, H. L., Lattuca, L. R., & Hamilton, E. R. (2008). Conceptualizing engagement:

      Contributions of faculty to student engagement in engineering. *Journal of Engineering*

      Education, *97*(3), 339-353. doi:10.1002/j.2168-9830.2008.tb00983.x

Christenson, S. L., Reschly, A. L., & Wylie, C. (2012). *Handbook of Research on Student*

      Engagement. New York, NY: Springer.

Christian, M. S., & Slaughter, J. E. (2007). Work engagement: A meta-analytic review and

      directions for research in an emerging area. *Academy of Management Proceedings*,

      2007(1), 1-6. doi:10.5465/ambpp.2007.26536346

Clifton, D. O., & Harter, J. K. (2003). Investing in strengths. In K. S. Cameron, J. E. Dutton, &

      R. E. Quinn (Eds.), *Positive organizational scholarship: Foundations of a new discipline*

      (pp. 111-121). San Francisco, CA: Berrett-Koehler.

Corno, L., & Anderman, E. M. (2015). *Handbook of Educational Psychology* (3rd ed.). San

      Francisco, CA: Taylor & Francis.

Cotton, K. (2003). *Principals and student achievement: What the research says.* Alexandria, VA:

      ASCD.

Csikszentmihalyi, M. (1997). *Finding Flow: The psychology of engagement with everyday life.*

New York, NY: BasicBooks.

Csikszentmihalyi, M., & Larson, R. (1984). *Being adolescent: Conflict and growth in the*

teenage years. New York, NY: Basic Books.

Csikszentmihalyi, M., & Schneider, B. (2000). *Becoming adult: How teenagers prepare for the*

world of work. New York, NY: Basic Books.

DiBianca, R. P. (2000). *Teaching Adolescents: Relationships between features of instruction and*

student engagement in high school mathematics and science classrooms (Doctoral

dissertation). Retrieved from ProQuest Dissertations & Theses. (304645364)

Dweck, C. S. (2000). *Self-theories: their role in motivation, personality, and development.*

Philadelphia, PA: Psychology Press.

Dweck, C. S. (2006). *Mindset: The new psychology of success.* New York, NY: Random House

Inc.

Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and

personality. *Psychological Review*, *95*, 256-273. doi:10.1037/0033-295x.95.2.256

Edmondson, A. C., & McManus, S. E. (2007). Methodological fit in management field research.

Academy of Management Review, *32*(4), 1155-1179. doi:10.5465/amr.2007.26586086

Farkas, S., Johnson, J., & Foleno, T. (2000). *A sense of calling: Who teaches and why.* Retrieved

from https://eric.ed.gov/?id=ED443815

Fletcher, D., & Arnold, R. (2011). A qualitative study of performance leadership and

management in elite sport. *Journal of Applied Sport Psychology*, *23*(2), 223-242.

doi:10.1080/10413200.2011.559184

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the

concept, state of the evidence. *Review of Educational Research*, *74*(1), 59-109.

doi:10.3102/00346543074001059

Fredricks, J. A., & McColskey, W. (2012). The measurement of student engagement: A

comparative analysis of various methods and student self-report instruments. In S. L.

Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student

engagement* (pp. 763-782). New York, NY: Springer.

Freedman, D., Pisani, R., & Purves, R. (2011). *Statistics.* New York, NY: W.W. Norton & Co.

Frenzel, A. C., & Götz, T. (2007). Emotionales Erleben von Lehrkräften beim Unterrichten

[Teachers' emotional experiences during teaching]. *Zeitschrift für Pädagogische

Psychologie*, *21*(3/4), 283-295.

Gagné, M., & Panaccio, A. (2014). The motivational power of job design. In M. Gagné (Ed.),

The Oxford handbook of work engagement, motivation, and self-determination theory

(pp. 165-180). New York, NY: Oxford University Press.

Reeve, J., & Su, Y. (2014). Teacher motivation. In M. Gagné (Ed.), *The Oxford handbook of

work engagement, motivation, and self-determination theory* New York, NY: Oxford

University Press.

Gamage, D., Adams, D., & McCormack, A. (2009). How does a school leader's role influence

student achievements? A review of research findings and best practices. *International

Journal of Educational Leadership Preparation*, *4*(1), 1-15. Retrieved from

http://files.eric.ed.gov/fulltext/EJ1068500.pdf

Gaztambide-Fernandez, R. (2009). What is an elite boarding school? *Review of Educational Research*, *79*(3), 1090-1128. doi:10.3102/0034654309339500

Goleman. (1999). *Working with emotional intelligence.* New York, NY: Bantam Books.

Goleman, D. (2000, March). Leadership that gets results. *Harvard Business Review*, *78*(2), 4-17.

Greenleaf, R. K. (2002). *Servant leadership: A journey into the nature of legitimate power and greatness.* New York, NY: Paulist Press.

Grix, J. (2002). Introducing students to the generic terminology of social research. *Politics*, *22*(3), 175-186. Retrieved from http://www.dlc-ubc.ca/wordpress_dlc_mu/lai/files/2011/07/epistemological-view-paper.pdf

Guthrie, J. T., Wigfield, A., & You, W. (2012). Instructional contexts for engagement and achievement in reading. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 601-634). New York, NY: Springer.

Hagenauer, G., Hascher, T., & Volet, S. E. (2015). Teacher emotions in the classroom: associations with students' engagement, classroom discipline and the interpersonal teacher-student relationship. *European Journal of Psychology of Education*, *30*(4), 385-403. doi:10.1007/s10212-015-0250-0

Hakanen, J. J., Bakker, A. B., & Schaufeli, W. B. (2006). Burnout and work engagement among teachers. *Journal of School Psychology*, *43*(6), 495-513. doi:10.1016/j.jsp.2005.11.001

Hamilton, E. R. (2013a). Finding creativity and flow in a high-stakes assessment context. *Irish Educational Studies*, *32*(1), 109-117. doi:10.1080/03323315.2013.773232

Hamilton, E. R. (2013b). His ideas are in my head: peer-to-peer teacher observations as

    professional development. *Professional Development in Education*, *39*(1), 42-64.

    doi:10.1080/19415257.2012.726202

Harland, T. (2003). Vygotsky's Zone of Proximal Development and problem-based learning:

    Linking a theoretical concept with practice through action research. *Teaching in Higher*

    Education, *8*(2), 263-272. doi:10.1080/1356251032000052483

Harter, J. K., Schmidt, F. L., & Keyes, C. L. M. (2003). Well-being in the workplace and its

    relationship to business outcomes: A review of the Gallup studies. In C. L. M. Keys & J.

    Haidt (Eds.), *Flourishing: Positive psychology and the life well-lived* (pp. 205-224).

    Washington, DC: American Psychological Association.

Hektner, J. M., Schmidt, J. A., & Csikszentmihalyi, M. (2007). *Experience Sampling Method:*

    Measuring the quality of everyday life. Thousand Oaks, CA: Sage Publications.

Hersey, P., & Blanchard, K. H. (1969). *Management of organizational behavior.* Englewood

    Cliffs, NJ: Prentice-Hall.

Heslin, P. A., Vandewalle, D., & Latham, G. P. (2006). Keen to help? Managers' implicit person

    theories and their subsequent employee coaching. *Personnel Psychology*, *59*(4), 871-902.

    doi:10.1111/j.1744-6570.2006.00057.x

Hillmer, S., Hillmer, B., & McRoberts, G. (2004). The real costs of turnover: Lessons from a call

    center. *Human Resource Planning*, *27*(3), 34-41. Retrieved from

    http://connection.ebscohost.com/c/articles/14659813/real-costs-turnover-lessons-from-

    call-center

Hoglund, W. L., Klingle, K. E., & Hosan, N. E. (2015). Classroom risks and resources: Teacher

    burnout, classroom quality and children's adjustment in high needs elementary schools.

    Journal of School Psychology, *53*(5), 337-357. doi:/10.1016/j.jsp.2015.06.002

Interview with Dr. Carol Dweck—Developing a Growth Mindset. (2011). Retrieved from

    http://www.highlightsparents.com/parenting_perspectives/interview_with_dr_carol_dwec

    k_developing_a_growth_mindset

Jaeger, P. T., Bertot, J. C., Thompson, K. M., Katz, S. M., & DeCoster, E. J. (2012). The

    Intersection of public policy and public access: Digital divides, digital literacy, digital

    inclusion, and public libraries. *Public Library Quarterly*, *31*(1), 1-20.

    doi:10.1080/01616846.2012.654728

Johnson, S., Cooper, C., Cartwright, S., Donald, I., Taylor, P., & Millet, C. (2005). The

    experience of work-related stress across occupations. *Journal of Managerial Psychology*,

    20(2), 178-187. doi:10.1108/02683940510579803

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at

    work. *Academy of Management Journal*, *33*(4), 692-724. doi:10.2307/256287

Katz, R. L. (1974). Skills of an effective administrator. *Harvard Business Review*, *33*(1), 33-42.

    Retrieved from https://hbr.org/1974/09/skills-of-an-effective-administrator

Klassen, R. M., Aldhafri, S., Mansfield, C. F., Purwanto, E., Siu, A. F. Y., Wong, M. W., &

    Woods-McConney, A. (2012). Teachers' engagement at work: An international

    validation study. *Journal of Experimental Education*, *80*(4), 317-337.

    doi:10.1080/00220973.2012.678409

Klassen, R. M., Yerdelen, S., & Durksen, T. L. (2013). Measuring teacher engagement:

    Development of the Engaged Teachers Scale (ETS). *Frontline Learning Research*, *1*(2),

    33-52. doi:10.14786/flr.v1i2.44

Knowles, M. S., Holton, E. F., & Swanson, R. A. (2011). *The adult learner: The definitive*

    classic in adult education and human resource development (7th ed.). Boston, MA:

    Elsevier.

Kubey, R., Larson, R., & Csikszentmihalyi, M. (1996). Experience Sampling Method

    applications to communication research questions. *Journal of Communication*, *46*(2), 99-

    120. doi:10.1111/j.1460-2466.1996.tb01476.x

LaRossa, R. (2005). Grounded theory methods and qualitative family research. *Journal of*

    Marriage and Family, *67*(4), 837-857. Retrieved from

    https://pdfs.semanticscholar.org/2123/29c12dd64d7da78c41c21926c51886f5baf6.pdf

Lee, F., Caza, A., Edmondson, A., & Thomke, S. (2003). New knowledge creation in

    organizations. In K. S. Cameron, J. E. Dutton, & R. E. Quinn (Eds.), *Positive*

    organizational scholarship (pp. 194-206). San Francisco, CA: Berrett-Koehler.

Leiter, M. P., & Maslach, C. (2010). Building engagement: The design and evaluation of

    interventions. In A. B. Bakker & M. P. Leiter (Eds.), *Work Engagement: A handbook of*

    essential theory and research (pp. 164-180). New York, NY: Psychology Press.

Leslie, M. B. (2010). The wisdom of crowds? Groupthink and nonprofit governance. *Florida*

    Law Review, *62*, 1181-1226. doi:10.2139/ssrn.1477553

Maccoby, M. (2004). Why people follow the leader: The power of transference. *Harvard*

   Business Review, *82*(9), 76-85. Retrieved from https://hbr.org/2004/09/why-people-

   follow-the-leader-the-power-of-transference

Macey, W. H., & Schneider, B. (2008). The meaning of employee engagement. *Industrial and*

   Organizational Psychology, *1*(1), 3-30. doi:10.1111/j.1754-9434.2007.0002.x

Malmberg, L. E., Hagger, H., & Webster, S. (2014). Teachers' situation-specific mastery

   experiences: Teacher, student group and lesson effects. *European Journal of Psychology*

   of Education, *29*(3), 429-451. doi:10.1007/s10212-013-0206-1

Maslach, C., & Leiter, M. P. (1997). *The truth about burnout : how organizations cause personal*

   stress and what to do about it. San Francisco, CA: Jossey-Bass.

May, D. R., Gilson, R. L., & Harter, L. M. (2004). The psychological conditions of

   meaningfulness, safety and availability and the engagement of the human spirit at work.

   Journal of Occupational and Organizational Psychology, *77*(1), 11-37.

   doi:10.1348/096317904322915892

McDonald, P. K., Pini, B., & Mayes, R. (2012). Organizational rhetoric in the prospectuses of

   elite private schools: Unpacking strategies of persuasion. *British Journal of Sociology of*

   Education, *33*(1), 1-20. doi:10.1080/01425692.2012.632864

McNair, D. E., Duree, C. A., & Ebbers, L. (2011). If I knew then what I know now: Using the

   leadership competencies developed by the American Association of Community Colleges

   to prepare community college presidents. *Community College Review*, *39*(1), 3-25.

   doi:10.1177/0091552110394831

Moore, A. F. (2012). *Piloting the iPad: A Case Study Evaluation in a K-12 School District* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses. (UMI No. 3541883)

Moorhead, G., Ference, R., & Neck, C. P. (1991). Group decision fiascoes continue: Space shuttle Challenger and a revised groupthink framework. *Human Relations*, *44*(6), 539-550. doi:10.1177/001872679104400601

Nerstad, C. G. L., Richardsen, A. M., & Martinussen, M. (2010). Factorial validity of the Utrecht Work Engagement Scale (UWES) across occupational groups in Norway. *Scandinavian Journal of Psychology*, *51*, 326-333. doi:10.1111/j.1467-9450.2009.00770.x

Northouse, P. G. (2004). *Leadership: theory and practice.* Thousand Oaks, CA: Sage.

Park, C. K., Lim, D. H., & Ju, B. (2016). Transformational leadership and teacher engagement in an international context. In O. Onchwari, J. G. Mbae, & J. Keengwe (Eds.), *Handbook of research on global issues in next-generation teacher education* (pp. 22-46). Hershey, PA: IGI Global. doi:10.4018/978-1-4666-9948-9.ch002

Parker, P. D., Martin, A. J., Colmar, S., & Liem, G. A. (2012). Teachers' workplace well-being: Exploring a process model of goal orientation, coping behavior, engagement, and burnout. *Teaching and Teacher Education*, *28*(4), 503-513. doi:10.1016/j.tate.2012.01.001

Pianta, R. C., Hamre, B. K., & Allen, J. P. (2012). Teacher-student relationships and engagement: Conceptualizing, measuring, and improving the capacity of classroom interactions. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of*

research on student engagement (pp. 365-386). New York, NY: Springer.

doi:10.1007/978-1-4614-2018-7_17

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2016). Recommendations for creating

better concept definitions in the organizational, behavioral, and social sciences.

Organizational Research Methods, *19*(2), 159-203. doi:10.1177/1094428115624965

Puglisi, M. J. (2011). Advice to presidents of struggling colleges. *New Directions for Higher

Education*, *2011*(156), 83-92. doi:10.1002/he.457

Quinn, D. M. (2002). The impact of principal leadership behaviors on instructional practice and

student engagement. *Journal of Educational Administration*, *40*(5), 447-467.

doi:10.1108/09578230210440294

Rawat, A. A., & Nadavulakere, S. (2015). Examining the outcomes of having a calling: Does

context matter? *Journal of Business and Psychology*, *30*(3), 499-512.

doi:10.1007/s10869-014-9378-1

Ready, D. A., & Conger, J. A. (2003). Why leadership-development efforts fail. *MIT Sloan

Management Review*, *44*(3), 83-88. Retrieved from

https://lib.pepperdine.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&

db=buh&AN=9547978&site=ehost-live&scope=site

Richards, L., & Morse, J. M. (2013). *Readme first for a user's guide to qualitative methods* (3rd

ed.). Los Angeles: SAGE.

Robbins, S. P., & Judge, T. (2011). *Organizational Behavior.* Upper Saddle River, N.J.: Prentice

Hall.

Roth, G., Assor, A., Kanat-Maymon, Y., & Kaplan, H. (2007). Autonomous motivation for

    teaching: How self-determined teaching may lead to self-determined learning. *Journal of*

    Educational Psychology, *99*(4), 761-774. doi:10.1037/0022-0663.99.4.761

Rupayana, D. D. (2008). *Flow and engagement: different degrees of the same?* (Master's thesis).

    Retrieved from http://www.academia.edu/download/31743680/DishaRupayana2008.pdf.

Russell, L., & Feldman, J. (2003). *IT leadership alchemy.* Upper Saddle River, NJ: Prentice Hall.

Russell, R. F., & Stone, A. G. (2002). A review of servant leadership attributes: Developing a

    practical model. *Leadership & Organization Development Journal*, *23*(3), 145-157.

    doi:10.1108/01437730210424

Rutter, R. A., & Jacobson, J. D. (1986). *Facilitating teacher engagement.* Retrieved from

    http://files.eric.ed.gov/fulltext/ED303438.pdf

Salanova, M., Agut, S., & Peiró, J. M. (2005). Linking organizational resources and work

    engagement to employee performance and customer loyalty: The mediation of service

    climate. *Journal of Applied Psychology*, *90*(6), 1217-1227. doi:10.1037/0021-

    9010.90.6.1217

Schaufeli, W. B., & Bakker, A. B. (2004). *UWES: Utrecht Work Engagement Scale, Preliminary*

    Manual. Utrecht: University of Utrecht. Retrieved from

    http://www.wilmarschaufeli.nl/publications/Schaufeli/Test%20Manuals/Test_manual_U

    WES_English.pdf

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement

    with a short questionnaire: A cross-national study. *Educational and Psychological*

    Measurement, *66*(4), 701-716. doi:10.1177/0013164405282471

Schiff, D., Fund, P. E., Herzog, L., & Farley-Ripple, E. (2015). Teacher networks in

> Philadelphia: Landscape, engagement, and value. *Perspectives on Urban Education*,
>
> *12*(1). Retrieved from http://www.urbanedjournal.org/archive/volume-12-issue-1-spring-
>
> 2015/teacher-networksphiladelphia-landscape-engagement-and-value

Schmieder-Ramirez, J. H., & Mallette, L. A. (2007). *The SPELIT power matrix: Untangling the*

> *organizational environment with the SPELIT leadership tool.* North Charleston, SC:
>
> BookSurge Publishing.

Schmieder-Ramirez, J. H., & McManus, J. (2007). *The accreditors are coming! The accreditors*

> *are coming! Are you ready?* Dubuque, IA: Kendall/Hunt Publishing Co.

Schneider, B. (2011). The human face of workplace flexibility. *The ANNALS of the American*

> *Academy of Political and Social Science*, *638*(1), 103-122.
>
> doi:10.1177/0002716211415824

Schneider, B., & Waite, L. J. (2005). *Being together, working apart: Dual-career families and*

> *the work-life balance.* New York, NY: Cambridge University Press.

Scudder, T., Patterson, M., & Mitchell, K. (2012). *Have a nice conflict: How to find success and*

> *satisfaction in the most unlikely places.* San Francisco, CA: Jossey-Bass.

Seppälä, P., Mauno, S., Feldt, T., Hakanen, J., Kinnunen, U., Tolvanen, A., & Schaufeli, W.

> (2009). The construct validity of the Utrecht Work Engagement Scale: Multisample and
>
> longitudinal evidence. *Journal of Happiness Studies*, *10*(4), 459-481.
>
> doi:10.1007/s10902-008-9100-y

Shah, S. K., & Corley, K. G. (2006). Building better theory by bridging the quantitative-

    qualitative divide. *Journal of Management Studies*, *43*(8), 1821-1835.

    doi:10.1111/j.1467-6486.2006.00662.x

Shernoff, D. J. (2013). *Optimal learning environments to promote student engagement.* New

    York, NY: Springer.

Shernoff, D. J., Kelly, S., Tonks, S. M., Anderson, B., Cavanagh, R. F., Sinha, S., & Abdi, B.

    (2016). Student engagement as a function of environmental complexity in high school

    classrooms. *Learning and Instruction*, *43*, 52-60. doi:10.1016/j.learninstruc.2015.12.003

Shernoff, D. J., & Schmidt, J. A. (2008). Further evidence of an engagement-achievement

    paradox among US high school students. *Journal of Youth and Adolescence*, *37*(5), 564-

    580. doi:10.1007/s10964-007-9241-z

Simpson, M. R. (2009). Engagement at work: A review of the literature. *International Journal of*

    Nursing Studies, *46*(7), 1012-1024. doi:10.1016/j.ijnurstu.2008.05.003

Sonnentag, S. (2003). Recovery, work engagement, and proactive behavior: A new look at the

    interface between nonwork and work. *Journal of Applied Psychology*, *88*(3), 518-528.

    doi:10.1037/0021-9010.88.3.518

Sonnentag, S. (2011). Research on work engagement is well and alive. *European Journal of*

    Work and Organizational Psychology, *20*(1), 29-38. doi:10.1080/1359432X.2010.510639

Sonnentag, S., Dormann, C., & Demerouti, E. (2010). Not all days are created equal: The

    concept of state work engagement. In A. B. Bakker & M. P. Leiter (Eds.), *Work*

    engagement: A handbook of essential theory and research (pp. 25-38). New York, NY:

    Psychology Press.

Spreitzer, G., Sutcliffe, K., Dutton, J., Sonenshein, S., & Grant, A. M. (2005). A socially

    embedded model of thriving at work. *Organization Science*, 537-549.

    doi:10.1287/orsc.1050.0153

Stodolsky, S. S. (1988). *The subject matters: Classroom activity in math and social studies.*

    Chicago, IL: University of Chicago Press.

Stone, A. G., Russell, R. F., & Patterson, K. (2004). Transformational versus servant leadership:

    A difference in leader focus. *Leadership & Organization Development Journal*, *25*(4),

    349-361. doi:10.1108/01437730410538671

Storm, K., & Rothmann, S. (2007). A psychometric analysis of the Utrecht Work Engagement

    Scale in the South African police service. *SA Journal of Industrial Psychology*, *29*(4), 62-

    70. doi:10.4102/sajip.v29i4.129

Sutton, R. I., & Staw, B. M. (1995). What theory is not. *Administrative Science Quarterly*, *40*(3),

    371-384. doi:10.2307/2393788

Treadgold, R. (1999). Transcendent vocations: Their relationship to stress, depression, and

    clarity of self-concept. *Journal of Humanistic Psychology*, *39*(1), 81-105.

    doi:10.1177/0022167899391010

United States Department of Education. (2015). Fast Facts. *National Center for Education*

    Statistics. Retrieved from http://nces.ed.gov/fastfacts/

Wagner, A. K. (2013). *How social and emotional learning beliefs predict efficacy and*

    engagement beliefs in practicing and preservice teachers (Thesis). Retrieved from

    ProQuest Dissertations & Theses Full Text.

Weick, K. E. (1995). What theory is not, theorizing is. *Administrative Science Quarterly*, *40*(3),

    385-390. doi:10.2307/2393789

Welch, R. L. (2000). Training a new generation of leaders. *Journal of Leadership &*

    Organizational Studies, *7*(1), 70-81. doi:10.1177/107179190000700107

Wright Mills, C. (1956). *The power elite.* New York, NY: Oxford University Press.

Xanthopoulou, D., Baker, A. B., Heuven, E., Demerouti, E., & Schaufeli, W. B. (2008). Working

    in the sky: A diary study on work engagement among flight attendants. *Journal of*

    Occupational Health Psychology, *13*(4), 345-356. doi:10.1037/1076-8998.13.4.345

Zhu, N. Q. (2001). *The effects of teachers' flow experiences on the cognitive engagement of*

    students (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses.

Zullig, K. J., Huebner, E. S., & Patton, J. M. (2011). Relationships among school climate

    domains and school satisfaction. *Psychology in the Schools*, *48*(2), 133-145.

    doi:10.1002/pits.20532

Zweigenhaft, R. L., & Domhoff, G. W. (1998). *Diversity in the power elite: Have women and*

    minorities reached the top? New Haven, CT: Yale University Press.

APPENDIX A

The Engaged Teachers Scale (ETS)

ENGAGED TEACHERS SCALE

Below you will find a list of statements describing your experiences as a teacher. Please indicate your personal response to each of these statements by checking the number that best represents your answer.

0 = Never   3 = Sometimes   6 = Always

	Never	Rarely	On occasion	Sometimes	Often	Frequently	Always
1. At school, I connect well with my colleagues.	⓪	①	②	③	④	⑤	⑥
2. I am excited about teaching.	⓪	①	②	③	④	⑤	⑥
3. In class, I show warmth to my students.	⓪	①	②	③	④	⑤	⑥
4. I try my hardest to perform well while teaching.	⓪	①	②	③	④	⑤	⑥
5. I feel happy while teaching.	⓪	①	②	③	④	⑤	⑥
6. In class, I am aware of my students' feelings.	⓪	①	②	③	④	⑤	⑥
7. At school, I am committed to helping my colleagues.	⓪	①	②	③	④	⑤	⑥
8. While teaching, I really "throw" myself into my work.	⓪	①	②	③	④	⑤	⑥
9. At school, I value the relationships I build with my colleagues.	⓪	①	②	③	④	⑤	⑥
10. I love teaching.	⓪	①	②	③	④	⑤	⑥
11. While teaching I pay a lot of attention to my work.	⓪	①	②	③	④	⑤	⑥
12. At school, I care about the problems of my colleagues.	⓪	①	②	③	④	⑤	⑥

13. I find teaching fun.	⓪	①	②	③	④	⑤	⑥
14. In class, I care about the problems of my students.	⓪	①	②	③	④	⑤	⑥
15. While teaching, I work with intensity.	⓪	①	②	③	④	⑤	⑥
16. In class, I am empathetic towards my students.	⓪	①	②	③	④	⑤	⑥

APPENDIX B

Experience Sampling Form (ESF) for Teachers

Adapted for delivery via Qualtrics at the conclusion of a class. Shortened and adapted

from DiBianca (2000). Facsimile of Qualtrics form begins next page.

Thank you for submitting this quick check-in form near the conclusion of each class / activity period of the school day (for example, advisory or classes you teach). The more check-in data points we can collect, the more rich the data will be.

What instructional formats did you use in this recent class?
Check all that apply.

teacher lecture

teacher demonstration

test / quiz

laboratory / activity

computer (iPad) work

video / film

student presentation

uniform seat work

discussion

independent work

going over test / homework / problems

"housekeeping"

non-academic

In this recent class / activity...

	not at all						very much
	1	2	3	4	5	6	7
How well were you concentrating?	O	O	O	O	O	O	O
Did you feel good about yourself?	O	O	O	O	O	O	O
Did you enjoy what you were doing?	O	O	O	O	O	O	O
Do you wish you had been doing something else?	O	O	O	O	O	O	O

Describe your feelings during the recent class / activity

For every pair of "opposites" choose one bubble.

	very	quite	somewhat	neither	somewhat	quite	very	
active	O	O	O	O	O	O	O	passive
lonely	O	O	O	O	O	O	O	sociable
free	O	O	O	O	O	O	O	constrained
confused	O	O	O	O	O	O	O	clear
detached	O	O	O	O	O	O	O	involved
worried	O	O	O	O	O	O	O	relaxed
excited	O	O	O	O	O	O	O	bored
cheerful	O	O	O	O	O	O	O	irritable

How has your most recent interaction with an administrator impacted how you are feeling?

	very	quite	somewhat	neither	somewhat	quite	very	
negatively	O	O	O	O	O	O	O	positively

General Comments

(optional)

[ ]

>>

APPENDIX C

Informed Consent

PEPPERDINE UNIVERSITY

Graduate School of Education and Psychology

INFORMATION/FACTS SHEET FOR EXEMPT RESEARCH

TEACHER ENGAGEMENT:
WHEN ENGAGEMENT HAPPENS IN SCHOOLS AND CONSEQUENCES FOR LEADERS

You are invited to participate in a research study conducted by Christopher Sokolov (doctoral student in the Ed.D. in Organizational Leadership program) and Eric Hamilton, Ph.D. (faculty advisor) at the Pepperdine University, because you are a teacher at Cascade School**.** Your participation is voluntary. You should read the information below, and ask questions about anything that you do not understand, before deciding whether to participate. Please take as much time as you need to read this document. You may also decide to discuss participation with your family or friends.

PURPOSE OF THE STUDY

The purpose of the study is to identify the characteristics that engaged teachers share at a Bay Area independent school. Teachers are central to the experience of children in schools. The engagement of teachers in their work is linked to increased job satisfaction, workplace productivity, and even student engagement. Despite all of the evidence that teacher engagement should be fostered and measured, teacher engagement is not systematically monitored or reviewed in schools. This study will measure teacher engagement in two ways: 1) as a personal trait (using the Engaged Teachers Scale, or ETS, administered once); 2) as a state that may change over time (using an Experience Sampling Method form or ESF multiple times over the course of a work week) along with variables on instructional format and the level of interaction with an administrator.

PARTICIPANT INVOLVEMENT

If you agree to take part in this study, you will be asked to fill out a survey during the regularly scheduled Monday faculty meeting. This phase of data collection will take 5-10 minutes. You will fill out the form on your own iPad or laptop.

For the following 5 work days (i.e., Tuesday – Friday and the following Monday), you will be asked to fill out a short (less than 2 minute) form on your smart phone, iPad, or laptop at the conclusion of each class period you teach or assist in teaching.

You do not need to answer any questions you don't want to. Click "next" in the survey to move to the next question.

PARTICIPATION AND WITHDRAWAL

Your participation is voluntary. Your refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights, or remedies because of your participation in this research study.

ALTERNATIVES TO FULL PARTICIPATION

Your alternative to participation in the study is not participating or completing only the items with which you feel comfortable. Your relationship with your employer will not be affected whether you participate or not in this study.

CONFIDENTIALITY

I will keep your records for this study confidential. However, if I am required to do so by law, I may be required to disclose information collected about you. Examples of the types of issues that would require me to break confidentiality are if you tell me about instances of child abuse and elder abuse. Pepperdine's University's Human Subjects Protection Program (HSPP) may also access the data collected. The HSPP occasionally reviews and monitors research studies to protect the rights and welfare of research subjects.

The data will be encrypted and stored on a password-protected computer in the principal investigator's place of residence. The data will be stored for a minimum of three years. There will be no identifiable information obtained in connection with this study. The data you submit will be coded to remove any identifier that might link your responses to you.

INVESTIGATOR'S CONTACT INFORMATION

Please understand that I, Christopher Sokolov, am willing to answer any inquiries you may have concerning the research herein described. You may contact Dr. Eric Hamilton, eric.hamilton@pepperdine.edu, if you have any other questions or concerns about this research.

RIGHTS OF RESEARCH PARTICIPANT – IRB CONTACT INFORMATION

If you have questions, concerns or complaints about your rights as a research participant or research in general please contact Dr. Judy Ho, Chairperson of the Graduate & Professional Schools Institutional Review Board at Pepperdine University 6100 Center Drive Suite 500 Los Angeles, CA 90045, 310-568-5753 or gpsirb@pepperdine.edu.

By clicking on the link to the survey questions, you are acknowledging you have read the study information. You also understand that you may end your participation at end time,

for any reason without penalty.

If you would like documentation of your participation in this research you may print a copy of this form.

APPENDIX D

IRB Notice of Approval for Human Research

PEPPERDINE

Pepperdine University
24255 Pacific Coast Highway
Malibu, CA 90263
TEL: 310-506-4000

NOTICE OF APPROVAL FOR HUMAN RESEARCH

Date: March 04, 2016

Protocol Investigator Name: Christopher Sokolov

Protocol #: 16-02-212

Project Title: Teacher Engagement: When engagement happens in schools and consequences for leaders

School: Graduate School of Education and Psychology

Dear Christopher Sokolov:

Thank you for submitting your application for exempt review to Pepperdine University's Institutional Review Board (IRB). We appreciate the work you have done on your proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. Upon review, the IRB has determined that the above entitled project meets the requirements for exemption under the federal regulations 45 CFR 46.101 that govern the protections of human subjects.

Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit an amendment to the IRB. Since your study falls under exemption, there is no requirement for continuing IRB review of your project. Please be aware that changes to your protocol may prevent the research from qualifying for exemption from 45 CFR 46.101 and require submission of a new IRB application or other materials to the IRB.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite the best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the IRB as soon as possible. We will ask for a complete written explanation of the event and your written response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the IRB and documenting the adverse event can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* at community.pepperdine.edu/irb.

Please refer to the protocol number denoted above in all communication or correspondence related to your application and this approval. Should you have additional questions or require clarification of the contents of this letter, please contact the IRB Office. On behalf of the IRB, I wish you success in this scholarly pursuit.

Sincerely,

Judy Ho, Ph.D., IRB Chairperson

cc: Dr. Lee Kats, Vice Provost for Research and Strategic Initiatives

PEPPERDINE

Pepperdine University
24255 Pacific Coast Highway
Malibu, CA 90263
TEL: 310-506-4000

Mr. Brett Leach, Regulatory Affairs Specialist

APPENDIX E

Pepperdine University Integrated Course List

Fall 2011

EDOL 714 Organizational Behavior, Theory, and Design	Dr. June Schmieder-Ramirez
EDOL 724 Ethics and Personal Leadership	Dr. Farzin Madjidi
EDOL 755 E-Learning: Theory and Practice	Dr. Elio Spinello

Spring 2012

EDOL 700 Leadership Theory and Practice	Dr. Farzin Madjidi
EDOL 763 Learning Design and Evaluation	Dr. Michael Patterson
EDOL 766 Research Design and Analysis	Dr. Doug Leigh

Summer 2012

EDOL 754A Economic and Political Systems	Dr. Farzin Madjidi
EDOL 754B International Policy Experience	Dr. Farzin Madjidi
EDOL 758A Consultancy Project	Dr. Andrew Harvey

Fall 2012

EDOL 734 Advanced Data Analysis and Interpretation	Dr. Thomas Granoff
EDOL 764 Consultancy Project	Dr. Andrew Harvey
EDOL 767 Qualitative Research Design and Analysis	Dr. Kay Davis

Spring 2013

EDOL 765 Strategic Leadership & Management of Global Change	Dr. June Schmieder-Ramirez
EDOL 759 Law and Dispute Resolution	The Honorable John Tobin
EDOL 785 Contemporary Topics	Dr. Andrew Harvey

Summer 2013

EDOL 753 Leadership, Advocacy, and Policy Development	Dr. Jack McManus
EDOL 757 Entrepreneurship	Dr. Vance Caesar

Fall 2013

EDOL 787 Comprehensive Exam Seminar	Dr. Jack McManus

Spring 2014 – Spring 2016

EDOL 791 Dissertation Research	Dr. Eric Hamilton