Professional Development in High Engagement Instructional Strategies: Impact on Student Engagement and Faculty Efficacy in a Two-Year Post-Secondary Environment

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Abstract

The rising costs of an education, low retention rates, employer concerns that graduates do not have the knowledge and skills expected in the workplace, and questions about the learning and value that higher education has provided to students during the past decade have become increasingly significant national issues (Leveille, 2006). Current accreditation standards and practices also seemingly fail to measure student learning resulting in limited accountability for higher education institutions (Brown, 2013). It has therefore recently become a priority for college administrators to pursue the most efficient and effective professional development that prepares faculty across all disciplines to teach using high engagement instructional strategies that ultimately result in measurable outcomes related to the retention and engagement of students (Tinto, 2012). Internal professional development strategies must address the transformation of delivery of
 pedagogy through innovative development, being cognizant of the need for cost effective strategies due to budget constraints (Bailey et al, 2015). Providing professional development on pedagogical practices is often a challenge faced by college administrators. However, the ancillary benefits of faculty gaining confidence in the classroom, feeling supported by fellow faculty members, and becoming empowered to contribute to the institution's role in creating conditions for student success is the ultimate result (Tinto, 2012).

The purpose of this mixed-methods study was to determine the impact of faculty development in high engagement instructional strategies at a public, two-year, co-educational institution on increasing student engagement scores as well as determining

faculty perception of professional development regarding an increased efficacy in terms of improving teaching and learning strategies. The research design of the quantitative portion of this study included statistical analysis of 30 hypotheses to determine the relationship between students reporting being engaged in learning and the participation of faculty in professional development in high engagement instructional strategies. Archival data from student responses on the Community College Survey of Student Engagement (CCSSE) administered in the spring of 2013 and the spring of 2016 were used for the quantitative portion of the study. Faculty perception of professional development regarding increased efficacy in terms of improving teaching and learning strategies following participation in practicum experiences focusing on high engagement instructional strategies was measured through content analysis of faculty blogs performed by the researcher. The qualitative instrumentation used for this study involved the review of 346 personal reflection blogs completed by 16 faculty members who participated in a practicum during the 2015-2016 academic year.

Dedication

This study is dedicated to my husband and partner in life, Dewey, as well as my boys, Christian and Tanner. Without their unconditional love and unwavering support, I would not have been able to pursue and bring this dream to fruition. Thank you to my mom, Linda Smith, and dad and stepmother, Jack and Karen Smith, who have always provided support and encouragement as I pursued every dream during my life. Sincere appreciation to my extended family, friends, colleagues and students who encouraged and engaged in conversations with me regarding student success and faculty development.

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Table of Contents

List of Tables

Chapter 1

Introduction

As a result of the increasing need for a trained workforce, two-year public institutions, commonly referred to as community colleges, expanded from the 1940s through the 1960s. Operating with less restrictive admissions requirements, these colleges granted underrepresented populations access to a college degree (Bailey, Jaggars, & Jenkins, 2015). The demographics of students attending higher education institutions such as community colleges have continued to evolve from a select, homogeneous, and privileged population to a large, socially, economically, and ethnically diverse population (Berger, Ramirez, & Lyons, 2012). While the resources invested during the past decade in programs, policy, and regulations to increase access to post-secondary institutions have proven to be effective, completion and success rates have steadily declined (Tinto, 2012). Bailey et al. (2015) stated, "The failure of students to complete college represents a loss to the overall economy, which has prompted calls from the federal government, major foundations, and public intellectuals for a significant increase in the number of people with postsecondary degrees" (p. 1). This phenomenon of increased enrollment and declining completion has ultimately resulted in a more nuanced and strategic focus at institutions across the country on increasing student retention and graduation rates (Berger et al., 2012).

Students and parents seeking to make informed and fiscally responsible decisions by comparing the quality and costs of educational institutions have become increasingly more concerned with the value of an education. Regulations at the federal and state level have been drafted to adhere to the demands from the public for transparency, relevancy,

affordability, and accountability in higher education institutions, including community colleges (Berger et al., 2012). These regulations and demands for transparency have ultimately resulted in institutions becoming more diligent at improving, assessing, and reporting student retention and engagement. Leveille (2006) reported:

> Accountability in higher education has been an increasingly significant national issue over the past decade or more, spurred by rising costs, disappointing retention and graduation rates, employer concerns that graduates do not have the knowledge and skills expected in the workplace, and questions about the learning and value that higher education provides to students. (p. 5)

Congruent with the pressure from the public and policy makers for transparency and accountability, community colleges are faced with large budget reductions (Bailey et al., 2015). Barr and McClellan (2011) found that the current situation in higher education "is a volatile, changing, and risky environment, and the costs associated with recruitment and retention of students must be considered in the development of each annual institutional budget" (p. 12).

Most higher education institutions would be unable to remain financially viable without federal aid and the taxpayer dollars that fund federal aid programs (Brown, 2013). For nearly 50 years the valuation process for colleges and universities to disburse federal aid to their students has been outsourced to peer member based, geographically oriented accrediting agencies (Brown, 2013). "The rationale (of accreditation) was to ensure that students attended quality institutions from which they were likely to graduate and be employable, thereby safeguarding students and ensuring taxpayer dollars were well spent" (Brown, 2013, p. 1). The six regional agencies that conduct peer reviews are

funded through membership dues and fees paid by the institutions. Professional staff is limited, resulting in most of the accreditation visits and evaluations being conducted by volunteer faculty and staff from the institutions the agency serves (Brown, 2013). While outsourcing accreditation has been a longstanding practice, 30 years of studies have identified the limits and defects of this practice, concluding that accreditation does not accomplish congressional intent, stifles innovation, and threatens autonomy at the college and university level (Brown, 2013). Referring to six institutions that reported graduation rates each not exceeding 19%, Brown (2013) stated, "For over 80 percent of students to enroll (and in most cases take out federal loans and receive federal grants) and never graduate is scandalous. Yet these and other institutions with similarly unacceptable academic outcomes continue to be accredited" (p. 3). Most parents and students see an accreditation as a seal of approval of meeting high quality standards. However, "evidence of limited student learning, grade inflation, low graduation rates, high dropout rates and high default rates all point to the failure to ensure quality" (Brown, 2013, p. 5).

Seemingly, accreditation agencies are failing to protect the public's investment in higher education while stifling and interfering with necessary innovative educational reforms (Brown, 2013). With retention rates at dismal levels and continued decreases in funding, a transformation is essential for community colleges to remain relevant and competitive. A significant part of this transformation should take place within curriculum and pedagogy, as academics are the primary purpose of an educational institution (Tinto, 2012).

Background

The ACT conducts an annual survey and publishes the results in a document titled, *National Collegiate Retention and Persistence to Degree Rates.* This document is a compilation of the results of an online survey titled, *ACT Institutional Data Questionnaire* and provides national benchmarks for institution type and selectivity. ACT (2018) indicated that the data were collected and compiled by institutions updating their information on ACT or the federal government's Integrated Postsecondary Education Data System (IPEDS). Information about enrollment, admissions, costs, financial aid, student affairs, and academic programs from nearly 4,000 two-year and four-year postsecondary institutions was provided in the report (ACT, 2018). The 2016 persistence to degree rates by institutional type are displayed in Table 1.

Table 1

Summary Table: National Persistence to Degree

Degree Level/Control	*N*	*M (%)*	*SD*
Two-year Public	340	22.1	14.9
Two-year Private	17	52.6	29.0
BA/BS Public	51	36.6	21.2
BA/BS Private	146	57.6	24.9
MA/1st Professional Public	142	39.5	18.7
MA/1st Professional Private	315	54.5	16.5
PhD Public	215	51.2	18.1
PhD Private	229	62.7	18.1
Total	1445	45.9	N/A

Note: Adapted from *National Collegiate Retention and Persistence to Degree Rates,* by ACT, 2016, p. 7.

The 2016 results revealed the mean percentage of degree completion at two-year public institutions was 22.1% (ACT, 2016). This is the lowest rate of any of the types of institutions. However, not all students who enroll in community colleges intend to graduate with an Associate Degree. Some enroll in a few courses to enhance skills for work, while some enroll to complete courses only to transfer to a four-year college (Tinto, 2012). While determining the individual reasons that students enroll in college is a valuable consideration, there is still a need to assess the completion numbers and determine effective actions to address the degree completion issue. Kuh, Kinzie, Schuh,

and Whitt (2010) found that student engagement is a direct correlation to degree completion.

This study was conducted at a public, two-year, co-educational institution in Kansas (College A). According to the website of College A (2017a), throughout the last three decades the institution expanded its outreach through physical sites, serving approximately 13,000 students a year in 24 locations including high schools and virtual classrooms. At the time of the current study, the college offered more than 90 academic programs and co-curricular activities in athletics, fine arts, and multiple student organizations (College A, 2017a). This higher education institution is one of the 19 community colleges in Kansas coordinated by the Kansas Board of Regents (KBOR) and one of 32 higher education institutions in the state (KBOR, 2017a).

In the summer of 2017, KBOR introduced the *Kansas DegreeStats* tool on the website that allows students and parents to explore the quality and cost of each of the 32 institutions. The description on the website reads, "This interactive tool reviews the cost and earnings data from real graduates for each undergraduate degree program offered at a public university or college in Kansas" (KBOR, 2017b, para. 1). Students and parents seek to make informed decisions about the quality of a higher education institution. Student retention data has become a critical component to a college's quality indicators, and student engagement has been found to be a key factor in improving student retention and completion. Lattuca and Stark (2009) stated, "The key influence appears not to be institutional type per se, but rather how an institution intentionally shapes its academic and co-curricular programs to encourage student involvement in the educational process" (p. 70). Historically, student engagement has been a term used to describe campus life

outside of the classroom and the areas of development were focused in student life

divisions (Tinto, 2012). In reference to past researchers and policy makers Tinto (2012)

stated, "They have neglected the classroom, the one place on campus, perhaps the only

place, where the great majority of students meet faculty and one another and engage in

formal learning activities" (p. 5). Tinto (2012) explained that this is especially true of

students who work while attending college, indicating that the classroom is often the only

experience these students have on campus. Kuh et al. (2010) indicated the two key

components that contribute to student retention and engagement are: (1) the amount of

time and effort students give to their studies, and (2) the activities and the allocation of

resources that institutions establish for the students to benefit from learning opportunities.

Colleges must adhere to the notion that creating conditions that lead to student success is

the responsibility of both academic and student life divisions (Kuh et al., 2010).

     The shift in the population of students attending two-year colleges coupled with

the continuously progressing requirements for transparency and accountability have

resulted in a mandate for a transformation in the modality, delivery, and relevancy of

curriculum. As student engagement in the learning process has not always been common

in the traditional academic model of pedagogy, a modification in pedagogy necessitates

professional training and development of faculty at all levels. Bok (2006) found:

     While pockets of innovation exist throughout American higher education, most

     professors teach as they traditionally have, confident that the ways that have

     worked in the past will continue to serve in the future. Though trained in research

     themselves, they continue to ignore the accumulating body of experimental work

     suggesting that forms of teaching that engage students actively in the learning

process do significantly better than conventional methods in achieving goals, such

as critical thinking and problem solving, that faculties everywhere hold dear. (p.

312)

Kuh et al. (2010) explained that student persistence, learning, and success are dependent

upon the ability of educators to employ high engagement strategies that result in a higher

level of learning.

Advancement via Individual Determination (AVID) is a secondary education

program that provides tools and resources to prepare students for future success. As

stated on the AVID website:

AVID impacts students school wide as academic strategies like writing to learn,

inquiry, collaboration, organizational skills, and critical reading (WICOR) are

taught in all classes by teachers who have been trained to use AVID [high

engagement] strategies in their specific content areas" (Advancement via

Individual Determination [AVID], 2017a, para. 3).

At the time of the current study, AVID had a 30-year history, affecting 1.5 million

students in 44 states and 16 other countries (AVID, 2017a). Strengthening collaborations

with higher education institutions throughout the country, AVID for Higher Education

(AHE) was established in 2010. In conjunction with the AVID model in secondary

education, AHE was designed to provide teacher preparation and resources for college

students to promote high levels of learning and engagement that will result in continued

postsecondary success (AVID, 2017b). AVID and AHE use WICOR as a learning

support structure, providing a collection of high engagement instructional strategies

under each heading of writing, inquiry, collaboration, organization, and critical reading

(AVID, 2017a). AVID promotes that the WICOR model instills the skills that all students will need to be successful in and beyond their educational endeavors (AVID, n.d).

Within the strategic priorities of College A (2017b), the priority to *invest in employees' success* supports the professional development of faculty. Following the retirement of the Director of Faculty Development and the reorganization of the Faculty Development department in 2013, a faculty member of the college was selected as the Director of Faculty Development and charged with the responsibility to reinvent faculty development across the institution (College A Faculty Member, personal communication, January 10, 2017). The newly appointed Director of Faculty Development formed a cross-curricular team of 21 faculty members, responsible for researching, implementing, and delivering professional faculty development. Following the first retreat of the Faculty Development Team (FDT) in 2014, "Teach, Tech, and Care" were the themes that emerged. These three themes ultimately drove faculty development in high engagement instructional strategies (Director of Faculty Development, personal communication, January 10, 2017). According to the Director of Faculty Development (2017), the FDT in conjunction with the Vice President of Academics' and the President's investment in AHE, initiated a collaborative institutional commitment to increase the use of high engagement instructional strategies in the classroom. Budget resources as well as commitments of time were utilized to support the implementation of AHE and faculty development at College A. By the end of the summer of 2016, approximately 60% of the faculty members at the institution had been trained in WICOR

and high engagement instructional strategies (Director of Faculty Development, personal communication, February 17, 2017).

Three faculty development opportunities were available in 2016 for faculty to attend, including Summer Jam, which was a 30-hour faculty development in high engagement instructional strategies program; an academic yearlong practicum; and the AVID Summer Institute (Director of Faculty Development, personal communication, February 17, 2017). The Director of Faculty Development (2017) explained that Summer Jam was an internally developed 30-hour faculty development program offered the week following spring graduation that consisted of five, six-hour continuous days of faculty development. The topics for the faculty development were based on the WICOR model and were presented with the use of high engagement instructional strategies (Director of Faculty Development, personal communication, February 17, 2017).

According to the Director of Faculty Development, the academic year practicum was a development opportunity for faculty members who participated in Summer Jam to continue meeting through the following academic year creating a faculty learning community (personal communication, February 17, 2017). The practicum required the faculty members, who taught in diverse disciplines across the college, to meet bi-weekly in assigned groups of four. The meetings were referred to as "huddles" and were formed based on teaching schedules and availability. Each faculty "huddle" determined a mutually conducive time to meet every other week and maintained these meetings through the academic year. Reading assignments were assigned virtually through College A's learning management system each week. The Director of Faculty Development continued by explaining, collaborative discussions took place in the bi-

weekly huddles based on the assigned readings (personal communication, February 17, 2017). The faculty members also submitted reflective blogs centered on best practices and personal experiences in implementing the high engagement instructional strategies in their classes. The bi-weekly discussions, readings, and reflective blog posts were facilitated, collected, and reviewed by the Director of Faculty Development electronically through College A's learning management system (Director of Faculty Development, personal communication, February 17, 2017).

The AVID Summer Institute is an annual professional learning event held for faculty and staff members of participating AVID institutions. At the time of the study, three tracks, seminar instructors, liaisons, and teacher preparation leadership, were offered during the AVID Summer institute. The faculty development topics are based upon the WICOR model, and the workshops are facilitated using high engagement instructional strategies (Director of Faculty Development, personal communication, February 17, 2017).

College A's internal faculty development strategies noted above, in part, address the necessity for a transformation of delivery of pedagogy through innovative strategies realizing there is a need for cost efficiencies due to budget constraints. Providing faculty development on pedagogical practices is often a challenge faced by college administrators, but the ancillary benefits of faculty gaining confidence in the classroom, feeling supported by fellow faculty members, and becoming empowered to contribute to the institution's role in creating conditions for student success is the ultimate result (Tinto, 2012). It has become a priority for college administrators to pursue the most efficient and effective modality for faculty development that prepares them to teach using

high engagement instructional strategies that ultimately result in measurable outcomes in increasing overall students' retention and engagement (Tinto, 2012).

Statement of the Problem

While there may never be a collective model of professional development that can meet the needs to address the diversity and complexity of all faculty learning at colleges and universities, a study in best practices was warranted. While AVID (2017a) documented its achievement in affecting nearly 1.5 million students in secondary education, the AHE program at the time of this study remained in its introductory phase. Limited research had been conducted when this study was designed to assess the effectiveness of the AHE program especially as it related to validation between faculty members' participation in professional development in high engagement instructional strategies and student engagement. Teaching that incorporates high engagement strategies has been found to stimulate learning facilitation, metacognition, and critical thinking skills, ultimately resulting in increased student retention and completion (Bailey et al., 2015).

Purpose of the Study

The current study included four purposes to determine the impact of professional development in high engagement instructional strategies at a public, two-year, co-educational institution in Kansas on increasing student engagement scores as well as faculty perception of the relationship between professional development and an increased efficacy of teaching. The first purpose of the study was to conduct an analysis of archived survey data encompassing students' ratings of their engagement in learning in courses prior to the participation of the faculty members in professional development in

high engagement instructional strategies. The second purpose of the study was to

conduct an analysis of archived survey data encompassing students' ratings of their

engagement in learning in courses after the participation of the faculty members in

professional development in high engagement instructional strategies. The third purpose

of the study was to measure the extent of change in students' ratings prior to and after the

participation of faculty members in professional development in high engagement

instructional strategies. The fourth purpose of the study was to analyze faculty members'

perception about the impact of professional development in high engagement

instructional strategies on increased efficacy in teaching.

Significance of the Study

Various researchers have reported on the cost of student attrition to students and

taxpayers, the association of using high engagement instructional strategies including

active, collaborative, and reflective learning leading to increased engagement and

retention, and the value of faculty professional development. There is limited literature

addressing the relationship between professional development in high engagement

instructional strategies at the post-secondary level and student engagement in classes.

Tinto (2012) noted, "Given the widespread investment in faculty and staff development

programs, surprisingly few studies connect faculty development to student outcomes"

(p.81). Centers for teaching and learning that were once only found at large research

institutions, are now common at small liberal arts and community colleges. Professional

faculty development includes technology, assessment, and pedagogical advancements

(Persellin & Goodrick, 2010). Tinto (2012) explained how professional development in

high engagement instructional practices often leads to beneficial engagement among

faculty on campus (Tinto, 2012). There is limited current literature investigating alignment between professional development in high engagement instructional strategies at the post-secondary level and its relationship with student engagement and retention. The current study sought to address that gap.

The results of this study are significant to administrators and local board members at higher education institutions who are seeking effective and cost-efficient methods for delivering professional development in high engagement instructional strategies. The results of this study are also significant to faculty development professionals as well faculty seeking to improve instructional strategies that result in an increase in student engagement and retention. Finally, the results of this study are significant to state boards of education and parents who believe students who are engaged in learning are more likely to be successful and retained.

Delimitations

Lunenburg and Irby (2008) referred to delimitations as "self-imposed boundaries set by the researcher on the purpose and scope of the study" (p. 134). Delimitations are meant to control for the variables that could affect a social sciences study. This study was bounded by the following delimitations:

1. Archival data for the quantitative portion of the study were from one public, two-year, co-educational institution in Kansas enrolled in the spring 2013 and the spring 2016 semesters.

2. The blogs and discussion posts in the qualitative portion of the study were collected from faculty members at one public, two-year, co-educational institution in Kansas and were limited to those maintained electronically within the college's

learning management system of the course shell for the 2015-2016 academic year practicum.

Assumptions

The assumptions under which this study was conducted encompassed "the nature, analysis, and interpretation of the data" (Lunenburg & Irby, 2008, p. 135). The following assumptions were made regarding this research:

1. The demographics of the sample of students were representative of the total population of students attending the college during the spring of 2013 and the spring of 2016.

2. The faculty members provided authentic personal perceptions of their efficacy in the classroom following their experience of faculty development in high engagement instructional strategies.

3. The analysis of the qualitative data accurately reflected the perceptions of the faculty.

Research Questions

This study addressed the relationship between professional development in high engagement instructional strategies and student engagement. The study also addressed faculty members' perception about the impact of professional development in high engagement instructional strategies on increased efficacy in teaching. The following four research questions guided this study:

RQ1. To what extent do students report they are engaged in class before faculty members participated in professional development in high engagement instructional strategies?

RQ2. To what extent do students report they are engaged in class after faculty members participated in professional development in high engagement instructional strategies?

RQ3. To what extent is there a change in student reports of engagement from before faculty members participated in professional development in high engagement instructional strategies to after faculty members participated in professional development in high engagement instructional strategies?

RQ4. What are faculty members' perceptions of teaching effectiveness in relationship to their participation in professional development in high engagement instructional strategies?

Definition of Terms

Throughout this study, terms and acronyms were used. The following definitions are included to eliminate misinterpretations.

AVID for Higher Education (AHE). As reported by the AVID Center (2017), "AVID for Higher Education builds on AVID's more than 30-year history of successfully preparing elementary and secondary students for college and career readiness" (para. 1).

Community College Survey of Student Engagement (CCSSE). The University of Texas Center for Community College Engagement (2017a) explained that "CCSSE provides information on student engagement, a key indicator of learning and, therefore, of the quality of community colleges" (para. 4).

Student Engagement. Great Schools Partnership (2016) stated, "in education, student engagement refers to the degree of attention, curiosity, interest, optimism, and

passion that students show when they are learning or being taught, which extends to the level of motivation they have to learn and progress in their education" (para. 1).

Writing, Inquiry, Collaboration, Organization, and Reading to Learn (WICOR). As stated on the AVID Center (2017) website, "AVID's proven learning support structure for middle and high school- and enhanced for higher education – is known as WICOR, which incorporates teaching/learning methodologies in the following critical areas: Writing, Inquiry, Collaboration, Organization, and Reading to Learn" (para. 1).

Organization of the Study

This dissertation is divided into five chapters. Chapter 1 provided an introduction, background, statement of the problem, purpose of the study and significance of the study. Chapter 1 also described the delimitations, assumptions, the four research questions that guided the study, and definitions for key terms used throughout the study. Chapter 2 provides a review of the literature that includes the following topics: the rising costs of education, student attrition, student-learning theories that support student engagement as a factor related to student retention and success, and the historical methods and value of faculty professional development. Chapter 3 describes the research methods including the research design, selection of participants, measurement, and data collection. Chapter 3 concludes with a description of the data analysis and synthesis, the researcher's role, trustworthiness, and the limitations of the research. Chapter 4 describes the results of the data analysis through descriptive statistics, hypothesis testing, and content analysis. Chapter 5 includes a summary of the study, an overview of the problem, a restatement of the purpose statement and research questions, a review of the

methodology, and the major findings. Finally, Chapter 5 presents the findings related to

the literature and the conclusions, including implications for action, recommendations for

future research, and concluding remarks.

Chapter 2

Review of the Literature

Provided in this chapter is a review of the literature. The rising costs of education and student attrition, the requisite for education reform, and student-learning theories that support student engagement as a factor related to student retention and success are addressed. A review of the historical and current faculty professional development concludes this chapter.

Costs of Education and Attrition

In order to address the topic of transforming pedagogy within secondary education to increase student engagement, literature regarding the rising costs of education, increased student debt loads, and the examination of the quality and relevancy of a college degree must be presented (Davidson, 2017). As state funding for higher education institutions in most states has decreased from 75% to 50%, these changes in revenues have been shifted to students as a cost of attendance (Goldrick-Rab, 2017). The result is that the cost of attendance from 1996 to 2012 for community colleges has risen an average of 52%, while family income has remained stagnant (Goldrick-Rab, 2017). Davidson (2017) found, "high tuition costs not only force many students into fields and would-be career paths they wouldn't otherwise choose, but also prevent many students from completing their degree" (p. 166). Loans and tuition must be paid even when a student fails to attain a degree, making attrition even more financially detrimental to the student (Davidson, 2017). The result is students attending college in today's society are choosing majors leading to careers based on potential income prospects in order to ensure the ability to pay off high educational loans as opposed to an interest or passion in a

subject (Davidson, 2017). Goldrick- Rab (2017) stated, "there is evidence that for many reasons the cost of attendance understates the true cost of attending college" (p.42). Financial aid, while intended to supplement the disparity in income and costs for families, has failed to keep up with the variance and gap between colleges' rising costs and family income (Goldrick-Rab, 2017).

The rising costs of higher education have contributed to community colleges becoming an integral part of the postsecondary system while currently providing an even more essential contribution to past President Obama's vision of the United States regaining its position as having the greatest number of college-educated adults (Schneider & Yin, 2011). During President Obama's first term, financial commitments to community colleges from government and private foundations were sanctioned, including $2 billion of additional government aid and $35 million from the Bill and Melinda Gates Foundation (Schneider & Yin, 2011). Due in part to the increase in funding, community colleges' open access, and relatively low tuition costs, enrollment in community colleges has increased by 25%, topping more than 6 million students in the last decade (Schneider & Yin, 2011). "As the evidence mounts regrading high costs to students and taxpayers, improving efficiency and effectiveness of community colleges is becoming increasingly important" (Schneider & Yin, 2011, p. 14). The cost of student attrition in community colleges is staggering. Between the academic years of 2005 through 2009, Schneider and Yin (2011) found, "in total almost $4 billion in federal, state, and local taxpayer monies in appropriations and student grants went to first-year community college dropouts" (p. 8). Schneider and Yin (2011) reported that 800,000 students started at a community college in 2009, but on average one-fifth of full-time students did not return for their

second year. The breakdown of losses over the 5-year period was $295 billion in appropriations, $241 million in state grants, and $660 million in federal grants (Schneider & Yin, 2011).

Education Reform, Student Engagement, and Learning Theories

Along with the rising costs associated with higher education and yet continuing poor retention and completion rates, pedagogic reform is a topic of discussion in numerous settings including colleges and universities, industry boardrooms, and family dinner tables. Davidson (2017) found that while colleges are still good at transitioning students from childhood to adulthood, they are failing at preparing students to succeed in the post-industrial and post-Internet world. Davidson explained, "Basically, the infrastructure, curriculums and assessment methods we have now were developed between 1860 and 1925" (p. 4). It is not a novel concept to feel the pressure to embark on educational reform, as Charles Eliot of Harvard led the charge in 1869, noting shortcomings of the education system not keeping pace with change going on in the modern world (Davidson, 2017).

Education reform. While institutions have been placed under inordinate pressure to improve the completion rates of students, decades of research and studies have defined and validated student engagement as a vital component of student retention and completion. Through the last two decades, considerable resources have been invested into retention efforts and programs at the institution, state and federal government levels (Tinto, 2012). Policy has been written that focuses on completion, as opposed to recruitment, and often provides incentives for institutions to increase the completion and success of students (Bailey et al., 2015). Tinto (2012) stated:

> Despite our nation's success in increasing access to college and reducing the gap
>
> in access between high and low-income students, we have not yet been successful
>
> in translating the opportunity access provides into college completion, or what I
>
> refer to as student success. (p. 4).

Higher education institutions have an obligation not only to recruit students but also to establish conditions that allow students to be successful (Tinto, 2012).

Student engagement. Active learning and student engagement strategies are not new theories emerging in higher education, but are subjects that have been researched, discussed, and debated in the educational field for decades. Cross (1987) suggested, "While we talk easily of teaching and learning, we are generally uncomfortable talking about teaching for learning" (p. 2). Cross (1987) proposed three main conclusions to be drawn from the previous decades of research. The primary conclusion was that students learn more when they are engaged and active participants in the instruction (Cross, 1987). Active learning is often considered a necessary component of student engagement. Bonwel and Eison (1991) provided a statement regarding active learning:

> Most important, to be actively involved, students must engage in such higher-
>
> order thinking tasks such as analysis, synthesis, and evaluation. Within this
>
> context, it is proposed that strategies promoting active learning be defined as
>
> instructional activities involving students in doing things and thinking about what
>
> they are doing. (p. 5)

Cross (1987) proposed two additional conclusions: (1) students generally learn what they practice and (2) when teachers set high but attainable goals, students will typically rise to meet the goals. To reach their highest potential, students need to be included in the

learning process continuously and challenged. Cross (1987) stated, "We can state it rather simply: students need to be actively and successfully involved in learning tasks that lead to desired outcomes" (p. 3).

Over two decades later, Kahu (2013) stated, "Student engagement is a current buzzword in higher education, increasingly researched, theorized, and debated with growing evidence of its critical role in achievement and learning" (p. 758). Formal definitions of student engagement vary throughout the research, but the majority of theorists have established that student engagement leads to student success and the definition should include the relationships students form with the institution, their studies, and the motivation and drive they have to learn. Bernard (2015) stated, "Findings revealed student engagement as a dynamic reiterative process marked by positive behavioral, cognitive, and affective elements exhibited in pursuit of deep learning" (p. 1). Bernard (2015) continued by claiming that the sociocultural environment and the motivation of the learner were also prime influencers of engagement. Kuh et al. (2010) stated:

> In sum, student engagement has two key components that contribute to student success. The first is the amount of time and effort students put into their studies and other activities that lead the experiences and outcomes that constitute student success. The second is the way the institution allocates resources and organizes learning opportunities and services to induce students to participate in and benefit from such activities. (p. 9)

Kuh et al. (2010), referred to the *Seven Principles for Good Practice in Undergraduate Education*, and stated, "These principles include student-faculty contact, cooperation

among students, active learning, prompt feedback, time on task, high expectations, and

respect for diverse talents and ways of learning" (p. 8). Kuh et al. (2010) referred to

these practices, noting that institutions have particular interest in those areas over which

the college has direct influence.

   Student Behavior Theories. Kahu (2013) believed that a relationship between

the student and the situation is essential for engagement. Schuh, Jones, and Harper

(2011) presented a collection of theories that focus on students' identities through the

examination of the relationship of campus environments to student development and

success. Kahu (2013) described four approaches to understanding student engagement

including the behavioral perspective, the psychological perspective, the socio-cultural

perspective, and the holistic perspective. Kahu (2013) specified the behavioral

perspective focused on effective teaching practice; the psychological perspective viewed

engagement as an internal individual process; the critical role of the socio-cultural

context is considered the perspective of the socio-cultural; and the holistic perspective,

connected the perspectives together. Kahu (2013) stated:

   A clearer distinction would be to recognize that what is considered to be the

   process is not engagement, instead it is a cluster of factors that influence student

   engagement (usually the more immediate institutional factors), whereas the

   outcome is student engagement- an individual psychological state with the three

   dimensions discussed earlier of affect, cognition and behavior. (p. 764)

Student engagement, often viewed through a narrow scope, must incorporate all four of

the perspectives described by Kahu.

Active learning strategies. Conditions for student success should include an environment that provides rich assessment and active learning (Tinto, 2012). "There is a large repertoire of active learning strategies from which faculty can draw, including student-led discussions, team learning, peer learning, oral presentations, writing-to-learn activities, case studies, and study groups" (Sorcinelli, 2007, p. 7). Wild and Ebbers (2002) found that including students in the process of determining what resources they need to be successful and providing supplemental instruction for challenging courses are successful models for student engagement at community colleges. Collaborative learning models and programs provide a student with a support system of peers that increases the student's desire to complete the program (Wild and Ebbers, 2002).

In their monograph, Bonwell and Eison (1991) denoted the research that compared lecture-based teaching to active learning strategies. The active learning strategies specifically referred to were ungraded reflection writing assignments or group discussions. Bonell and Eison (1991) found, "other research studies evaluating students' achievement have demonstrated that many strategies promoting active learning are comparable to lectures in promoting the mastery of content but superior to lectures in promoting the development of students' skills in thinking and writing" (p. 5).

"The lecture as the primary means of delivering learning is rapidly being replaced by new teaching methods that blend technology and classroom experience in ways that improve student outcomes" (Brown, 2013, p. 7). Tovani and Moje (2017) provided rhetoric and theory-based opinions that lecture only instruction provides opportunities for students to fake their learning. These authors further asserted that students could learn to play the game by participating only enough for the teacher to believe they are engaged.

Tovani and Moje (2017) explained that one of the authors personally spent many lecture-based classes doing work from another class, while making a point to ask timely, poignant questions in class and visiting the teacher to learn the information that would appear on a test after class. This he explained was not an engaged learner, but a student who had only learned to play the game (Tovani & Moje, 2017).

      Metacognition. Lattuca and Stark (2009) stated, "Recent research suggests that students' motivational patterns are related to their ability to consciously reflect on their own learning, a process called metacognition" (p.168). Metacognition, while not a new concept, is a social constructivist approach to knowledge acquisition found to have a significant impact on student engagement (Larmar & Lodge, 2014). Social cognitive theory suggests that a student must positively perceive their performance is sufficient to continue future educational goals (Tinto, 2012). Schraw (as cited in Larmar & Lodge., 2014) referred to the widely accepted definition of metacognition as consisting of two parts: (1) knowledge of cognition, and (2) regulation of cognition. Larmar and Lodge (2014) continued, "In other words, both the understanding of thinking processes and the monitoring and adaptation of these processes by the learner are important" (p. 99). In conjunction with motivational and emotional theories, metacognition in the form of critical thinking and reflection is a key component in the retention and engagement of students (Larmar & Lodge, 2014).

      Non-cognitive issues. Education is often ambivalent, equipping students to thrive in the present while simultaneously preparing for a future that can only be imagined (Brunnhuber, 2017). This type of education requires a focus on non-cognitive

skills, an area that has been historically underemphasized in education (Brunnhuber, 2017). Creativity is a necessary skill for students to develop. Brunnhuber (2017) stated:

> Non-cognitive factors comprise skills such as self-control, conscientiousness, curiosity, novelty, seeking, grit, optimism, resilience towards failure, perseverance, emotional attachment, impulse control, executive functions like planning ahead or anticipating, stress management, self-regulation, cognitive flexibility, increased working memory, focused attention, sitting in silence and so on. (p. 61)

Brunnhuber (2017) found that most educational programs do not enable students to use their full creative potential. Brunnhuber (2017) further attested that students on average are spending more time in school and higher education institutions are spending more per student; however, reading and math skills have remained stagnant. Brunnhuber (2017) identified six areas that make a significant difference in curriculum regardless of the subject. Those areas were exercise, mindfulness and meditation, rest and sleep, social contact, multi-sensory learning, and food (Brunnhuber, 2017).

A student's grade point average (GPA), American College Testing Program (ACT) score, or the Scholastic Aptitude Test (SAT) score have historically been the leading predictors of college success. Most colleges use GPA, ACT, or SAT scores as benchmarks to accept students into the college and award scholarships. These benchmarks have recently been proven to be unrelated to predicting persistence to graduation (Sparkman, Maulding, & Roberts, 2012). Motivational and behavioral factors have emerged as more accurate predictors of student success. Sparkman et al. (2012) found that emotional intelligence has been studied and researched in business for

decades, but has only recently been reported in the research on student retention and completion. "Emotional intelligence is the set of skills that a person needs to function effectively in the world and what might be referred to as common sense" (Sparkman et al., 2012, p. 644). Emotional intelligence is believed to be developed and improved through training (Sparkman et al., 2012). Sparkman et al. (2012) examined variables from fifth year college students that included high school GPA, ACT scores, current enrollment status, cumulative GPA, gender, ethnicity, first generational college student status, and emotional intelligence scores measured by a national test. The results of the study found that empathy, social responsibility, flexibility, and impulse control were all positive predictors of persistence to graduation (Sparkman et al., 2012).

WICOR Through AHE. AVID, with a more than 30-year history of success in preparing high school students for post-secondary advancement, established AHE in 2010 (AVID, 2018). AHE is designed to meet the needs of students attending college by assisting institutions in addressing goals of increased learning, persistence, and completion (AVID, 2018). "By assisting faculty and administrators in their efforts to increase student engagement, AVID also supports students in their efforts to earn a college degree and/or certificate" (AVID, 2018, para. 3). Student success and teacher preparation are the two initiatives that AHE was founded upon. These initiatives act as a holistic, integrated, college success system (AVID, 2018). Custer et al. (2011) found that higher education institutions have not been able to keep up with the changing needs of entering college students and funding cuts have limited resources needed for their success.

AVID provides a collection of high engagement instructional strategies to supplement course content and academic discipline instruction (Custer et al., 2011). See Appendix A for a list of high engagement instructional strategies. The foundation of the strategies is based on the WICOR model: Writing, Inquiry, Collaboration, Organization, and Reading (Custer et al., 2011). Teacher preparation and the instructional strategies are presented in six sections: (a) Getting Started: Preparing for Student Success, (b) Writing and Speaking to Learn, (c) Inquiry, (d) Collaboration, (e) Organization, and (f) Reading and Understanding Visuals (Custer et al., 2011). Preparing for student success within WICOR provides the foundation of building relationships and creating collaborative learning environments (Custer et al., 2011). Writing and speaking to learn is considered a basic and necessary skill; however, most students have insufficient skills (Custer et al., 2011). Custer et al. (2011) found that collaborative activities teach students how to respectfully work together while being accountable for their own and each other's learning. Critical thinking or higher order thinking skills are usually associated with inquiry (Custer et al., 2011). Students are often challenged managing their time and establishing priorities while in college. Organization is a skill that has been found to lead to success (Custer et al., 2011). Reading for comprehension is a skill that many college students seem to be lacking, often becoming overwhelmed by the amount of reading they are required to complete in college (Custer et al., 2011). Custer et al. (2011) stated, "The strategies work in both curricular and extra-curricular settings, employing inquiry-based engagement in academic subjects to develop students who assume responsibility as learners" (p. 6). There is limited literature and research regarding the effectiveness of AHE programs, as they are still a relatively new initiative in higher education settings.

Historical Perspective of Professional Faculty Development

A paradigm shift took place in the 1970s that incorporated instructional and personal development into faculty development programs (Murray, 2002). Three areas became the focus of faculty development: (a) professional development, (b) personal development, and (c) organizational development (Murray, 2002). As the collective, general mission of community colleges is to educate all who enter, it became essential to train faculty to espouse this mission as well as learn new instructional strategies for diverse educational backgrounds (Murray, 2002). Community college faculty development programs were inclined to place emphasis on the professional development and skill enhancements of becoming a better teacher (Murray, 2002).

Challenges of measuring the effectiveness of faculty development. The increased enrollments of nontraditional students necessitated community college faculty adapting teaching and learning approaches over the last two decades. Simultaneously, the costs associated with faculty development in relation to the dismal quantifiable results concerned administration in higher education (Murray, 2002). There became a need for faculty to be trained to teach in radically different ways (Murray, 2002). In addition, faculty development programs have had to find a balance in addressing the needs of new faculty, part-time faculty, and seasoned faculty (Sorcinelli, 2007). The costs of providing faculty development are often prohibitive. Murray (2002) stated:

> The increasing calls by the public for accountability in higher education means
> that colleges may be called to account for their use of public funds for faculty
> development. The absence of demonstrable effects on student learning could in
> fact lead to reduced funding from state governing boards. If so, community

college leaders may find themselves unable to defend faculty development

expenditures. (p. 93)

By identifying clear objectives and goals, measurable changes in student behavior, rather

than satisfaction with the training, could be measured (Murray, 2002). "Although there is

a dearth of empirical studies on the effectiveness of faculty development, one study does

demonstrate that community colleges that link faculty development and institutional

goals tend to be more effective educational institutions" (p. 91). Historically when

faculty development is optional, the faculty who could benefit from it the most fail to

participate, but when made mandatory, it will often be met with resentment and

frustration (Murray, 2002).

Two decades ago, Guskey (1997) addressed the elusiveness and contradictory

data that had been presented in the prior research regarding the effectiveness and efficacy

of professional development in relationship to student success. Guskey (1997) identified

three components that he deemed were the main causes of the inept research. Those

components were: (a) the confused criteria of effectiveness, in other words there has not

been a universally accepted delineation of criteria to measure the effectiveness of

professional development, (b) the salient aspects may be over quantified and the

differentiated aspects are often not considered significant, and (c) the neglect of quality

issues; research consistently focused on frequency and failed to encapsulate the difficult

task of quality of the programs (Guskey, 1997). Guskey (1997) recommended that future

evaluations and improvements of professional development be conducted utilizing both a

quantitative and qualitative analysis of multiple cases to achieve an in-depth analysis of

the methods that are most effective and applicable. Guskey (1997) concluded that in

order to connect professional development methods with results, the research must continue to connect theory with practice.

Method of delivery. While the need for faculty development has not lessened, the delivery and model has been transformed. Joyce and Showers (2003) acknowledged that the main outcome of professional development should be to begin with the premise that training needs to not only enable faculty to learn a new skill, but also to transfer these skills into practice. The key components of professional development training include knowledge, explanation of theory, modeling, practicing, and peer collaboration (Joyce & Showers, 2003). Sorcinelli (2007) indicated:

> Faculty development will require a larger investment of imagination and
> resources in order to strategically plan for and address new developments (e.g.,
> teaching for student-centered learning, retention, learning technologies,
> assessment) while not losing sight of our core values and priorities. (p. 8)

Providing opportunities for formal, collaborative peer teams to plan and discuss new pedagogical implementation strategies coupled with the support of administration was found to be the most effective model of professional development (Joyce & Showers, 2003). Sorcinelli (2007) found, "faculty development programs can promote teaching methods and strategies that increase students' capacities for problem-solving, teamwork, and collaboration-skills required in a rapidly changing and increasingly global world" (p. 6).

A study conducted by Sorcinelli (2007), included 500 academic professionals who identified three issues that faculty face: (a) their changing and expanding roles and responsibilities, (b) the changing nature of the student body, and (c) the changing nature

of teaching, learning, and scholarship (Sorcinelli, 2007). Opportunities to connect and collaborate with faculty in different disciplines was identified as a best practice (Sorcinelli, 2007). Team teaching, forming student-learning communities, and hosting cross-disciplinary faculty learning communities were the specific programs that lead to connection and collaboration among faculty (Sorcinelli, 2007). Murray (2002) found:

> A review of the literature on faculty development and its implications for community colleges suggests that the following are necessary conditions for an effective faculty development program: administrative support that fosters and encourages faculty development, a formalized, structured, goal-directed program, a connection between faculty development and the reward structure, faculty ownership, support form colleagues for investments in teaching, and a belief that good teaching is valued by administrators. (pp. 94-95)

As the student body on college campuses continues to become more diverse not only in gender, ethnicity, and age but in educational ability and preparation, faculty must learn to adapt learning environments to meet students' needs (Sorcinelli, 2007).

Summary

Chapter 2 provided an overview of the research relevant to the study of faculty development and student engagement upon which the research questions in this study were based. The chapter began with a review of literature summarizing the rising costs of education, the increasing debt load of students, and the cost of student attrition to taxpayers at a community college level. In addition, the need for education reform, and the historical and recent research describing learning theories, programs, and strategies that have been proven to increase student engagement was summarized. The chapter

concluded with a historical review of professional faculty development, the challenges of measuring its effectiveness, and a delineation of best practices of faculty development. Chapter 3 provides the methodology used in the current study including the research design, selection of participants, measurement, data collection, data analysis and synthesis, researcher's role, and trustworthiness.

Chapter 3

Methods

The purpose of this mixed methods study was to determine the impact of professional development in high engagement instructional strategies at a public, two-year, co-educational institution in Kansas on increasing student engagement scores. Additionally, this study examined the impact of professional development in high engagement instructional strategies on faculty perception of professional development contributing to an increase in efficacy in teaching. This chapter describes the research design, selection of participants, measurement, data collection, data analysis and synthesis, researcher's role, trustworthiness, and limitations.

Research Design

A convergent mixed methods research design was deemed the appropriate method to conduct the study. In a mixed methods design, the priority for both the quantitative and qualitative method, the timing for the analysis of the quantitative and qualitative data, and the level of interaction of the methods must be considered (Creswell & Plano Clark, 2011) Creswell (2014) explained:

> A mixed methods design is useful when the quantitative or qualitative approach, each by itself, is inadequate to best understand a research problem and the strengths of both quantitative and qualitative research (and its data) can provide the best understanding. (p. 20)

Creswell (2014) described the convergent method as the most widely used in mixed methods research. As stated in Chapter 1, three quantitative research questions and one qualitative research question guided this study. In the convergent mixed method design,

quantitative and qualitative data are collected and analyzed separately. Creswell (2014) found,

> The key assumption of this approach [convergent method design] is that both qualitative and quantitative data provide different types of information- often detailed views of the participants qualitatively and scores on instruments quantitatively- and together they yield results that should be the same. (p. 219)

The quantitative and qualitative data in this study were equally important and were analyzed concurrently.

The first variable for the quantitative portion of the study was archived student responses to 10 questions about engagement in learning extracted from the 2013 Community College Survey of Student Engagement (CCSSE) before the participation of faculty members in professional development in high engagement instructional strategies. The second variable for the quantitative portion of the study was archived student responses to the same 10 questions about engagement in learning extracted from the 2016 Community College Survey of Student Engagement (CCSSE) after the participation of faculty members in professional development in high engagement instructional strategies. The qualitative data included a review of 346 archived personal reflection faculty blogs regarding participation in professional development in high engagement instructional strategies and the impact on increased efficacy in teaching.

Selection of Participants

There were two populations for the study. The quantitative population was students enrolled at a public, two-year, co-educational institution in Kansas. The second

population included faculty members who participated in professional development in high engagement instructional strategies.

The researcher utilized a nonrandom sampling procedure, purposive sampling, to identify the quantitative samples. Lunenburg and Irby (2008) stated purposive sampling is "selecting a sample based on the researcher's experience or knowledge of the group" (p. 175). The first quantitative research sample included archived data for 99 students selected based on the following criterion: each student was enrolled in at least one course taught by a faculty member in the spring of 2013, prior to the faculty member participating in professional development in high engagement instructional strategies. The second quantitative research sample included archived data for 92 students selected based on the following criterion: each student was enrolled in at least one course taught by a faculty member in the spring of 2016, following the faculty member's participation in professional development in high engagement instructional strategies.

For the qualitative portion of the current research study, the sample of faculty members was selected from the population through nonrandom, purposive sampling. Lunenburg et al. (2008) suggested that purposive sampling should be utilized when selecting participants in a qualitative study in order to yield the results needed to achieve the purpose of the study. The qualitative research sample included archived blogs for 16 faculty members who participated in 30-hours of professional development in high engagement instructional strategies followed by an academic yearlong practicum throughout the 2015-2016 academic year.

Measurement

Appropriate measurement of the variables was necessary to address the four research questions in this study. Measurement of the variables for the quantitative portion of the current study involved the analysis of archived student's self-reported engagement responses to a Likert- type scale for 10 extracted items from the institution's 2013 and 2016 CCSSE. Measurement for the qualitative portion of the study involved the exploration of faculty experiences, through the evaluation of archived personal reflection blogs, which faculty members posted after participating in the professional development in high engagement instructional strategies. This section includes a detailed description of the CCSSE followed by the instructions given to the faculty for the submission of their blog postings and the validity and reliability of both methods.

Archival data from student responses on the CCSSE administered in the spring of 2013 and the spring of 2016 were used for the quantitative portion of the study. CCSSE is the institution's quantitative instrumentation tool used to measure student engagement. CCSSE measures institutional practices and student behaviors that influence student engagement and retention (University of Texas Center for Community College Engagement, 2017a.). Marti (n.d.) described the CCSSE as a tool intended to be used to improve teaching and learning by measuring the extent to which students are engaging in good educational practices. Extensive research has been conducted through the University of Texas Center for Community College Engagement (2017a) to construct survey items. By measuring student feedback, "CCSSE provides information on student engagement, a key indicator of learning and, therefore, of the quality of community colleges" (University of Texas Center for Community College Engagement, 2017a, para.

4). The results of each institution's surveys are compiled to create aggregate responses

and provide benchmarks for the identified sections. As described on the CCSSE website:

> The Community College Survey of Student Engagement (CCSSE) builds on …
>
> research and asks students about their college experiences- how they spend their
>
> time; what they feel they have gained from their classes; how they assess their
>
> relationships and interactions with faculty, counselors, and peers; what kinds of
>
> work they are challenged to do; how the college supports their learning; and so
>
> on. (University of Texas Center for Community College Engagement, 2017b,
>
> para. 1)

Five benchmarks are measured by the 38 items on the CCSSE: Active and Collaborative

Learning (ACTCOLL), Student Effort (STUEFF), Academic Challenge (ACCHALL),

Student-Faculty Interaction (STUFAC), and Support for Learners (SUPPORT)

(University of Texas Center for Community College Engagement, 2017c). The CCSSE

benchmarks focus on both institutional practices and student behaviors that promote

student engagement (University of Texas Center for Community College Engagement,

2017a). The first three items ask if the student has transferred to the school or if the

student began at the school, if the student is full-time or part-time, and if the student has

taken the survey in another course. Survey items 4-12 are conceptually grouped together

in the benchmarks delineated above to seek the student behaviors regarding their

learning. Survey item numbers 4-12 begin with a central question followed by specific

qualifying behavior statements labeled as the number and an a, b, c, etc.. Students

respond to each statement on a Likert-type scale. Survey items 19-27 ask about the

students' other college enrollments, current grades, time of the day they take classes,

number of hours completed and future educational goals. Survey items 28-38 ask

demographic questions. The survey items from ACTCOLL and STUEFF benchmarks

were used for this study due to the college's academic focus on the WICOR components

and high engagement instructional strategies.

The first set of student responses extracted was from the benchmark of

ACTCOLL. McClenney, Marti, and Atkins (n.d.) documented the findings from an

eleven-year study to validate the CCSSE benchmarks, concluding that ACTCOLL was

the benchmark that was able to consistently predict student success, and focused on

processes that were important for all of the outcomes measured. The ACTCOLL

benchmark is defined on the CCSSE website:

> Students learn more when they are actively involved in their education and have
>
> opportunities to think about and apply what they are learning in different settings.
>
> Through collaborating with others to solve problems or master challenging
>
> content, students develop valuable skills that prepare them to deal with the kinds
>
> of situations and problems they will encounter in the workplace, the community,
>
> and their personal lives. (University of Texas Center for Community College
>
> Engagement, 2017c, para. 4)

Table 2 provides the items from the ACTCOLL benchmark of the CCSSE. The variable

is the CCSSE abbreviation that is provided to institutions for categorical purposes.

Students respond to each item on a Likert-type scale of: 1 = Never, 2 = Sometimes, 3 =

Often, and 4 = Very Often.

Table 2

Extracted ACTCOLL Benchmark Items

Item Query	*Item #*	*Variable*
In your experience at this college during the current academic year, about how often have you done each of the following?		
Asked questions in class or contributed to class discussions	4a	CLQUEST
Made a class presentation	4b	CLPRESEN
Worked with other students on projects during class	4f	CLASSGRP
Worked with classmates outside of class to prepare class assignments	4g	OCCGRP
Tutored or taught other students (paid or voluntary)	4h	TUTOR
Participated in a community-based project as a part of a regular course	4i	COMMPROJ
Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	4n	OCCIDEAS

Note. Adapted from the *CCSSE Benchmarks,* by the University of Texas, 2017. Retrieved from

http://www.ccsse.org/aboutsurvey/biblio/

The second set of student responses extracted was from the benchmark of

STUEFF. In the study documented by McClenney et al. (2006), the STUEFF benchmark

was highly associated with persistence. STUEFF is defined on the CCSSE website:

Students' behaviors contribute significantly to their learning and the likelihood

that they will attain their educational goals. Time on task is a key variable, and

there are a variety of settings and means through which students may apply

themselves to the learning process. (University of Texas Center for Community

College Engagement, 2017c, para. 5)

Table 3 provides the items from the STUEFF benchmark of the CCSSE. The variable is

the CCSSE abbreviation provided to institutions for categorical purposes. The STUEFF

benchmark has two stem questions that introduce the items. These stem questions as well

as the survey items are identified in Table 3. Students respond to each item on a Likert-

type scale of: 1 = Never, 2 = Sometimes, 3 = Often, and 4 = Very Often for items 4d and

4e and 0 = None, 1 = 1-5 hours, 2 = 6-10 hours, 3 = 11-20 hours,

4 = 21-30 hours, and 5 = More than 30 hours for items 10a.

Table 3

Extracted STUEFF Benchmark Items

Question	*Item #*	*Variable*
In your experiences at this college during the current school year, about how often have you done each of the following?		
Worked on a paper or project that required integrating ideas or information	4d	INTEGRAT
Came to class without completing readings or assignments [a]	4e	CLUNPREP
About how many hours do you spend in a typical 7-day week doing each of the following?		
Preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to your program)	10a	ACADPR01

[a]This item was measured using a reverse scale

Note. Adapted from the *CCSSE Benchmarks,* by the University of Texas, 2017.

Retrieved from http://www.ccsse.org/aboutsurvey/biblio/

Lunenburg and Irby (2008) stated, "Validity is the degree to which an instrument measures what it purports to measure" (p. 181). The CCSSE instrument has been adapted from the National Survey of Student Engagement (NSSE) and developed to be used as a tool in two-year institutions to measure the extent to which students are engaged in good educational practices that result in positive outcomes for retention and completion (Marti, n.d.). The University of Texas Center for Community College Engagement (2017b) completed a validation study in 2006 to assess the current construct of the CCSSE survey. The University of Texas Center for Community College Engagement's survey

and validation study specifically focused on the practices at the community college level, and the findings from the study validated that the results from CCSSE surveys provide a valuable tool for assessing the quality of the educational practices of an educational institution (McCleeney, Marti, & Adkins, 2006). Confirmatory factor analysis (CFA) was used to establish latent construct models. The CFA model developed to conduct validity, and reliability was constructed for the version of the CCSSE instrument that was being used at the time of this study. Marti (n.d.) identified two corresponding goals in the latent construct model development for the CFA. The first goal was to ensure the underlying dimensions of student engagement were accurately identified and categorized so that they could be statistically measured (Marti, n.d.). "[The model] is intended to provide a factor structure for the [CCSSE] engagement items into their various components as granularly as necessary to separate the underlying latent constructs" (p. 5). The constructs were then limited to a practical number that would effectually measure effective educational practices (Marti, n.d.). "Validity was assessed by regressing student's reported GPA on each of the latent constructs in the models" (Marti, n.d., p. 6).

Lunenburg and Irby (2008) stated, "reliability is the degree to which an instrument consistently measures whatever it is measuring" (p. 182). Marti (n.d.) reported, "Reliability was primarily assessed through multiple-group CFA models that tested measurement invariance across groups" (p. 12). Furthermore, reliability was assessed through a study of the results from individuals' repeat survey administrations within the same administration year (Marti. n.d.). The test-retest correlations showed high degrees of consistency between first and second administrations (Marti, n.d.). Table

4 provides the reliability measures for the two latent constructs found in this study, presenting the Alpha and Test-Rest values.

Table 4

Reliability Measures for CCSSE

Latent Construct	*Alpha*	*Test-Retest*
Active and Collaborative Learning (ACTCOLL)	.66	.73
Student Effort (STUEFF)	.56	.74

Note. Adapted from *Dimensions of Student Engagement in American Community Colleges: using the Community Colleges Student Report in Research and Practice*, by C.N. Marti, n.d. Retrieved from: http://www.ccsse.org/aboutsurvey/docs/psychometrics.pdf

Marti (n.d.) reported that there was generally strong consistency in the underlying construct through the evaluation of Cronbach's alpha measures and that .70 was identified as the gold standard. While not all constructs met or exceeded the .70 standard, Marti (n.d.) reported the "Cronbach's alpha was adequate and informative, but not essential to establishing reliability of the instrument" (p. 13). Marti (n.d.) provided two main reasons that construct reliability is not a critical test of reliability for the CCSSE. The instrument was ultimately not designed to support hypotheses that align directly to the underlying constructs and the items in the instrument measure behavior versus psychological phenomena that the psychometric applications were intended to measure (Marti, n.d.). There were also an unequal number of items that measure each construct that can inflate or devalue the alpha within each construct (Marti, n.d.). Conclusively, Marti (n.d.) found that, "Reliability and validity analyses provide supporting evidence that the CCSSE is effectively measuring student engagement" (p. 14). In the key findings report drafted by McClenney et al. (2006), it was reiterated that the study was founded

upon years of research that unequivocally linked students' level of engagement in their academics and involvement to student success at the university level.

The evaluation of the perceptions of faculty members following their participation in the professional development in high engagement instructional strategies contributing to their self-efficacy in terms of improving teaching and learning strategies was measured through the content analysis of archived faculty blogs performed by the researcher. The qualitative instrumentation used for this study included 346 personal reflection blogs completed by the 16 faculty members who participated in a practicum during the 2015-2016 academic year. Each faculty member was assigned to electronically submit 29 reflective blogs to the learning management course shell at the institution throughout the 2015-2016 academic year, resulting in one blog post per week. The Director of Faculty Development (n.d.) included the following directions in the course shell:

1. The blog posts must be at least 500 words.

2. The blog posts can reflect upon insights gained during 'huddles' and discussions.

3. The blog posts can be experiential based on attempts of high engagement instructional strategies in the classroom.

4. The blog posts should be heartfelt reviews of both good and bad pedagogical experiences

The method used to analyze the qualitative data is detailed in the analysis and synthesis section of this chapter.

Creswell (2014) described validity and reliability in qualitative research as procedures and approaches used by researchers to check for accuracy and consistency. Creswell (2014) further asserted, "Validity using the convergent approach should be

based on establishing both quantitative validity (e.g., construct) and qualitative validity (e.g., triangulation) for each database" (p. 223). Unequal sample size and the use of different variables in convergent mixed method approaches are the potential threats that often yield incomparable and difficult to merge findings (Creswell, 2014). Devault (2017) found that trustworthiness was an effective substitution for validity and reliability in qualitative data analysis. A detailed section for trustworthiness within this study is provided later in this chapter.

Data Collection

A proposal to conduct the study was submitted to the Baker University Institutional Review Board on October 13, 2017 (see Appendix B). The committee approved the IRB proposal on October 19, 2017 (see Appendix C). A proposal to conduct the study was submitted to the study site Institutional Review Board on October 16, 2017 (see Appendix D). The researcher was granted approval from College A to use the archived student survey and faculty blog data on October 25, 2017 (see Appendix E).

Access to internal databases was obtained through a password protected computer and database maintained by the institution's Office of Institutional Research and Effectiveness. This database contained the archived, raw data from the 2013 and 2016 CCSSE. Access was also granted to the learning management course shell that contained the faculty member's blogs. All data obtained by the researcher were stored on a password-protected computer. As the researcher analyzed the blogs, identified, and coded themes, faculty members were named Faculty 1- Faculty 16.

Data Analysis and Synthesis

The three quantitative research questions in this mixed methods study were addressed using hypothesis testing to evaluate the impact that professional development in high engagement instructional strategies had on student engagement scores. The statistical analysis of the quantitative data was conducted using the IBM SPSS Statistics 24 Program. The one qualitative research question was addressed using content analysis to evaluate faculty perception regarding the impact of professional development in high engagement instructional strategies on of the value of faculty development and an increased efficacy in teaching. An inductive category development content analysis approach of the qualitative data was conducted to determine the reoccurring themes and patterns within the data using procedures recommended by Bryman (2012).

Provided in this section are the four research questions which guided this study. The 30 hypotheses are included following each of the three quantitative questions. The details regarding the statistical methods used to test the hypothesis are also included. The qualitative data analysis method is detailed following RQ4.

RQ1. To what extent do students report they are engaged in class before the faculty member participated in professional development in high engagement instructional strategies?

H1. Students do not report they asked questions in class or contributed to class discussions before the faculty member participated in professional development in high engagement instructional strategies.

H2. Students do not report they made a class presentation before the faculty member participated in professional development in high engagement instructional strategies.

H3. Students do not report they worked with other students on projects during class before the faculty member participated in professional development in high engagement instructional strategies

H4. Students do not report they worked with classmates outside of class to prepare class assignments before the faculty member participated in professional development in high engagement instructional strategies.

H5. Students do not report they tutored or taught other students (paid or voluntary) before the faculty member participated in professional development in high engagement instructional strategies.

H6. Students do not report they participated in a community-based project as a part of a regular course before the faculty member participated in professional development in high engagement instructional strategies.

H7. Students do not report that they discussed ideas form readings or classes with others outside of class (students, family members, co-workers, etc.) before the faculty member participated in professional development in high engagement instructional strategies.

H8. Students do not report they worked on a paper or project that required integrating ideas or information before the faculty member participated in professional development in high engagement instructional strategies.

H9. Students report they came to class without completing readings or assignments before the faculty member participated in professional development in high engagement instructional strategies.

H10. Students do not report more than five hours in a typical week preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to their program) before the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test each of the ten hypotheses (H1-H10) used to address RQ1. For each test, the observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05.

RQ2. To what extent do students report that they are engaged in class after the faculty member participated in professional development in high engagement instructional strategies?

H11. Students report they asked questions in class or contributed to class discussions after the faculty member participated in professional development in high engagement instructional strategies.

H12. Students report they made a class presentation after the faculty member participated in professional development in high engagement instructional strategies.

H13. Students report they worked with other students on projects during class after the faculty member participated in professional development in high engagement instructional strategies

H14. Students report they worked with classmates outside of class to prepare class assignments after the faculty member participated in professional development in high engagement instructional strategies.

H15. Students report they tutored or taught other students (paid or voluntary) after the faculty member participated in professional development in high engagement instructional strategies.

H16. Students report they participated in a community-based project as a part of a regular course after the faculty member participated in professional development in high engagement instructional strategies.

H17. Students report they discussed ideas form readings or classes with others outside of class (students, family members, co-workers, etc.) after the faculty member participated in professional development in high engagement instructional strategies.

H18. Students report they worked on a paper or project that required integrating ideas or information after the faculty member participated in professional development in high engagement instructional strategies.

H19. Students report they came to class with completed readings or assignments after the faculty member participated in professional development in high engagement instructional strategies.

H20. Students report more than 5 hours in a typical week preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to their program) after the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test each of the ten hypotheses (H11-H20) used to address RQ2. For each test, the observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05.

RQ3. To what extent is there a change in student reports of their engagement from before the faculty participated in professional development in high engagement instructional strategies to after the faculty participated in professional development in high engagement instructional strategies?

H21. There is a difference in students reporting they asked questions in class or contributed to class discussions from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty member participated in professional development in high engagement instructional strategies.

H22. There is a difference in students reporting they made a class presentation from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty member participated in professional development in high engagement instructional strategies.

H23. There is a difference in students reporting they worked with other students on projects during class from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty member participated in professional development in high engagement instructional strategies.

H24. There is a difference in students reporting they worked with classmates outside of class to prepare class assignments from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty member participated in professional development in high engagement instructional strategies.

H25. There is a difference in students reporting they tutored or taught other students (paid or voluntary) from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty member participated in professional development in high engagement instructional strategies.

H26. There is a difference in students reporting they participated in a community-based project as a part of a regular course from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty member participated in professional development in high engagement instructional strategies.

H27. There is a difference in students reporting they discussed ideas form your readings or classes with others outside of class (students, family members, co-workers, etc.) from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty member participated in professional development in high engagement instructional strategies.

H28. There is a difference in students reporting they worked on a paper or project that required integrating ideas or information from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty member participated in professional development in high engagement instructional strategies.

H29. There is a difference in students reporting they came to class without completing readings or assignments from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty

member participated in professional development in high engagement instructional strategies.

H30. There is a difference in students reporting the number of hours a week to preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to their program) from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of independence was conducted to test each of the ten hypotheses (H21-H30) used to address RQ3. For each test, the observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05.

RQ4. What are faculty members' perceptions of their own teaching effectiveness in relation to their participation in professional development in high engagement instructional strategies?

The qualitative data collected to address RQ4 were analyzed and synthesized. An inductive category development content analysis approach was used to determine the reoccurring themes that emerged from the faculty's blogs. The researcher created Excel spreadsheets, removed identifying data, and anonymously identified each faculty member using Faculty 1-Faculty 16. An inductive category development approach allows the researcher to start with observations and propose theories as a result of those observations (Dudovskiy, 2017). The researcher applied Bryman's (2012) four stages of content analysis to index, code and categorize the text of the blogs. As identified by Bryman

(2012), the first stage is to read the text, determining the context and themes that emerge and categorizing those themes into types or categories. The second stage is to mark the text making notes and labels for codes, highlighting key words (Bryman, 2012). The third stage is to systematically mark the text again, making note of repetitive themes and categorizing the text into chunks (Bryman, 2012). The fourth stage is interpretation, through identifying the interconnectedness between the codes, research questions, and literature (Bryman, 2012).

The qualitative data were evaluated by the content analysis of 346 archived blogs submitted by 16 faculty members following their participation in faculty development in high engagement instructional strategies. The researcher began the analysis by reading the 346 blogs identifying the context of each and distinguishing the common themes throughout. Next, the researcher made notes and created labels for the reoccurring themes and highlighting key phrases. Thirdly, the researcher read the blogs again utilizing the context of the identified themes, categorizing the texts, and eliminating the themes that were not related to the quantitative data or research within the study. Lastly, following the inductive category development content analysis approach, the researcher compared the identified themes to determine if faculty perceptions were congruent to the students' responses as well as the literature related to the study.

Researcher's Role

According to Creswell (2014), the researcher is the key instrument in qualitative research. "Qualitative researchers collect data themselves through examining documents, observing behavior, or interviewing participants" (Creswell, 2014, p. 185). In the current

study, the researcher analyzed the 346 blogs submitted by 16 faculty members through the institution's learning management course shell.

The analysis of the archived personal reflection blogs allowed the researcher to evaluate the impact of participation in professional development in high engagement instructional strategies on the faculty member's perception of the value of professional development and increased efficacy in their teaching. Wolcott (2001) suggested that by utilizing a systematic approach, the researcher could gain credibility through the analytic dimension and avoid overutilization of personal interpretations. The method and steps the researcher took to analyze the blogs are detailed in the Data Analysis and Synthesis section in this chapter. "But within the framework of qualitative approaches it would be of central interest, to develop the aspects of interpretation, the categories, as near as possible to the material, to formulate them in terms of the material" (Mayring, 2000, para. 10). The researcher acknowledged that the analysis of the blogs would lead to interpretation but attempted to develop the themes through the words, meaning, and intent that the faculty used within the blogs. Wolcott (2001) stated:

> Interpretation, […], is not derived from rigorous agreed upon, carefully specified procedures, but from our efforts at sensemaking, a human activity that includes intuition, past experience, emotion- personal attributes of human researchers that can be argued endlessly but neither proved nor disproved to the satisfaction of all. (p. 33).

The researcher was aware of the potential bias but believed that the inductive research process would allow the researcher to analyze the data based on common principles and themes. Three factors may have influenced the researcher' bias. One bias

is that the researcher worked at the community college at the time of the study. Secondly, the researcher had helped design and participated in the faculty development program. Finally, the researcher had transitioned into an administrative role at the institution during the study. It was the researcher's intent to maintain credibility and integrity throughout the study by conducting content analysis and interpretation of the data.

Trustworthiness

Devault (2017) stated, "instead of focusing on reliability and validity, qualitative researchers substitute data trustworthiness. Trustworthiness consists of the following components: (a) credibility; (b) transferability; (c) dependability; and (d) confirmability" (para. 1). Credibility can be established through prolonged engagement and persistent observations. The researcher was granted access to review the original submissions of the faculty's blogs through the learning management course shell at the institution and used an inductive category development approach to categorize themes found throughout the archived blogs. "In content analysis, material can be chunked into categories and reported statistically through procedures generally understood and accepted, in spite of whatever discrepancies occur in coding" (Wolcott, 2001, p. 33). The inductive category development approach enabled the researcher to conduct deeper analysis with less interpretation, removing some of the bias from the researcher. "Transferability is the generalization of the study findings to other situations and contexts" (Devault, 2017, para. 5). Purposive sampling was used to address transferability as it allowed the researcher to identify the sample based on the characteristics of the members. According to Devault (2017) dependability seems to be related to reliability. Dependability was

established in this study by identifying the definitions of each theme that were found in the literature. Devault (2017) found that confirmability could be established through "the process of refining the data within and across categories … systematically carried out, such that the data is first organized into groups according to similar attributed that are readily apparent" (para. 14). Confirmability for this study was established through the utilization Bryman's (2012) four-stage process detailed in the data analysis and synthesis section in this chapter.

Limitations

Lunenburg and Irby (2008) stated, "Limitations are factors that may have an effect on the interpretation of the findings or the generalizability of the results" (p. 133). The following limitations existed in this study:

1. The student CCSSE survey was administered to students enrolled in courses throughout the institution with varied content and subjects.

2. The high engagement instructional strategies that faculty members used may have varied in frequency, timing, and delivery.

These identified limitations would be similar for any two-year post-secondary institution that utilizes the CCSSE instrument.

Summary

Chapter 3 included a summary of the methodology used to complete the research of the current study. The topics included the research design, selection of the participants, measurement, data collection procedures, and data analysis and synthesis. Additionally, the researcher's role, trustworthiness, and the limitations of the study were

described. Chapter 4 contains the results of the hypothesis testing and content data

analysis.

Chapter 4

Results

The current study included four purposes to determine the impact of professional development in high engagement instructional strategies at a public, two-year, co-educational institution in Kansas on increasing student engagement scores as well as faculty perception of the relationship between professional development and an increased efficacy of teaching. The first purpose of the study was to conduct an analysis of archived survey data encompassing students' ratings of their engagement in learning in courses prior to the participation of the faculty members in professional development in high engagement instructional strategies. The second purpose of the study was to conduct an analysis of archived survey data encompassing students' ratings of their engagement in learning in courses after the participation of the faculty members in professional development in high engagement instructional strategies. The third purpose of the study was to measure the extent of change in students' ratings prior to and after the participation of faculty members in professional development in high engagement instructional strategies. The fourth purpose of the study was to analyze the faculty members' perception about the impact of professional development in high engagement instructional strategies on increased efficacy in teaching. Provided in Chapter 4 are the descriptive statistics for the quantitative data, the results of the hypothesis testing, and the qualitative content analysis results.

Descriptive Statistics

Frequency tables are provided to describe gender, enrollment status of the students as well as the course the student took the survey in. Table 5 provides the gender

and percentage of the sample in 2013 and 2016. In 2013, a total of 47 females and 50

males completed the survey, while two survey respondents included in the study did not

report gender. In 2016, a total of 38 females and 50 males completed the survey, while

four survey respondents included in the study did not report gender.

Table 5

Gender Frequency & Percentage Table

Year	Gender	N	%
2013			
	Male	50	50.5
	Female	47	47.4
	Not Reported	2	2.0
2016			
	Male	50	54.3
	Female	38	41.3
	Not Reported	4	4.3

The enrollment status for students surveyed in 2013 and 2016 is presented in

Table 6. Enrollment was reported as full-time or less than full-time. In 2013, a total of

26 students reported being enrolled full-time and 73 reported being enrolled less than

full-time. All students in this sample reported an enrollment status. In 2016, a total of 65

students reported being enrolled full-time and 24 reported being enrolled less than full-

time, while 4 survey respondents included in the survey did not report an enrollment

status.

Table 6

Enrollment Frequency & Percentage Table

Year	Enrollment Status	N	%
2013			
	Full-Time	26	26.3
	Less than Full-Time	73	73.7
	Not Reported	0	0.0
2016			
	Full-Time	65	70.7
	Less than Full-Time	24	26.1
	Not Reported	3	3.3

The class the students completed the survey in during 2013 is presented in Table 7. The seven courses that students in this study were surveyed in included Advanced Computer Applications, Network Servers, Introduction to Business, SQL Server Implementation, Accounting 1, Managerial Accounting, and Sociology. The number of students enrolled in each course with percentage of the sample is also presented in Table 7.

Table 7

2013 Course Enrollment Frequency and Percentage Table

Course Name	N	%
Advanced Computer Applications	9	9.0
Network Servers	10	10.1
Introduction to Business	11	10.1
SQL Server Implementation	11	11.1
Accounting 1	14	14.1
Managerial Accounting	22	22.2
Sociology	22	22.2

The class the students completed the survey in during 2016 is presented in Table 8. The eight courses that students in this study were surveyed in included Business Law 1, Human Sexuality, Principles of Management, Information Processing System, Introduction to Business, Network Clients, Managerial Accounting, and Sociology. The number of students enrolled in each course with percentage of the sample is also presented in Table 8.

Table 8

2016 Course Enrollment Frequency and Percentage Table

Course Name	N	%
Business Law 1	6	6.5
Human Sexuality	6	6.5
Principles of Management	7	7.6
Information Processing Systems	11	11.9
Introduction to Business	11	11.9
Network Clients	11	11.9
Managerial Accounting	20	21.7
Sociology	20	21.7

Hypothesis Testing and Qualitative Analysis

This section includes the results of the hypothesis testing used to examine the three quantitative research questions proposed in this study. In addition, the qualitative content analysis of the one research question proposed in this study is included this section. Four research questions and 30 hypotheses guided this study: each of the three research quantitative questions are stated followed by a description and a table providing of the results of the test. The one qualitative research question is stated followed by frequency tables of instances and percentages the categorized themes emerged in the blogs. An analysis of the themes which provides narrative of faculty's perceptions and quotes concludes this section.

RQ1. To what extent do students report they are engaged in class before the faculty member participated in professional development in high engagement instructional strategies?

H1. Students do not report they asked questions in class or contributed to class discussions before the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H1. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 41.242$, $df = 3$, $p = .000$. As summarized in Table 9, students reported they asked questions in class more than expected by chance before the faculty member participated in professional development in high engagement instructional strategies. This finding does not support H1.

Table 9

Observed and Expected Results of the Chi-square Test of Equal Percentages for H1

Response	Observed	Expected
Never	1	24.75
Sometimes	25	24.75
Often	46	24.75
Very Often	27	24.75

H2. Students do not report they made a class presentation before the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H2. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant

difference between the observed and expected frequencies, $\chi^2 = 17.242$, $df = 3$, $p = .000$.

As summarized in Table 10, students reported they sometimes made a class presentation more than expected by chance before the faculty member participated in professional development in high engagement instructional strategies. This finding does not support H2.

Table 10

Observed and Expected Results of the Chi-square Test of Equal Percentages for H2

Response	Observed	Expected
Never	26	24.75
Sometimes	38	24.75
Often	26	24.75
Very Often	9	24.75

H3. Students do not report they worked with other students on projects during class before the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H3. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 43.586$, $df = 3$, $p = .000$. As summarized in Table 11, students reported they sometimes or often worked with other students on projects during class more than expected by chance before the faculty member participated in professional development in high engagement instructional strategies. This finding does not support H3.

Table 11

Observed and Expected Results of the Chi-square Test of Equal Percentages for H3

Response	Observed	Expected
Never	10	24.75
Sometimes	47	24.75
Often	34	24.75
Very Often	8	24.75

H4. Students do not report they worked with classmates outside of class to prepare class assignments before the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H4. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 48.857$, *df* = 3, *p* = .000. As summarized in Table 12, students reported never or sometimes worked with classmates outside of class more than expected by chance before the faculty member participated in professional development in high engagement instructional strategies. This finding supports H4.

Table 12

Observed and Expected Results of the Chi-square Test of Equal Percentages for H4

Response	Observed	Expected
Never	46	24.5
Sometimes	35	24.5
Often	16	24.5
Very Often	1	24.5

H5. Students do not report they tutored or taught other students (paid or voluntary) before the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H5. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05.The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 119.788$, $df = 3$, $p = .000$. As summarized in Table 13, students reported they never tutored or taught other students (paid or voluntary) more than expected by chance before the faculty member participated in professional development in high engagement instructional strategies. This finding supports H5.

Table 13

Observed and Expected Results of the Chi-square Test of Equal Percentages for H5

Response	Observed	Expected
Never	71	24.75
Sometimes	18	24.75
Often	5	24.75
Very Often	5	24.75

H6. Students do not report they participated in a community-based project as a part of a regular course before the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H6. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 146.051$, $df = 3$, $p = .000$. As summarized in Table 14, students reported they never participated in a community-based project as a part of a regular course more than expected by chance before the faculty member participated in professional development in high engagement instructional strategies. This finding supports H6.

Table 14

Observed and Expected Results of the Chi-square Test of Equal Percentages for H6

Response	Observed	Expected
Never	76	24.75
Sometimes	15	24.75
Often	8	24.75
Very Often	0	24.75

H7. Students do not report they discussed ideas from readings or classes with others outside of class (students, family members, co-workers, etc.) before the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H7. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 39.869$, $df = 3$, $p = .000$. As summarized in Table 15, students reported they sometimes or often discussed ideas from readings or classes with others outside of classes (students, family members, co-workers, etc.) more than expected by chance before the faculty member participated in professional development in high engagement instructional strategies. This finding does not support H7.

Table 15

Observed and Expected Results of the Chi-square Test of Equal Percentages for H7

Response	Observed	Expected
Never	13	24.75
Sometimes	44	24.75
Often	36	24.75
Very Often	6	24.75

H8. Students do not report they worked on a paper or project that required integrating ideas or information before the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H8. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 22.980$, $df = 3$, $p = .000$. As summarized in Table 16, students reported they sometimes or often worked on a paper or project that required integrating ideas or information more than expected by chance before the faculty member participated in professional development in high engagement instructional strategies. This finding does not support H8.

Table 16

Observed and Expected Results of the Chi-square Test of Equal Percentages for H8

Response	Observed	Expected
Never	7	24.75
Sometimes	29	24.75
Often	40	24.75
Very Often	23	24.75

H9. Students report they came to class without completing readings or assignments before the faculty member participated in professional development in high engagement instructional strategies.

Prior to interpreting the results of the hypothesis testing, this item was reverse coded, as never and sometimes being the positive response. A Chi-square test of equal percentages was conducted to test H9. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 65.102$, $df = 3$, $p = .000$. As summarized in Table 17, students reported they never or sometimes came to class without completing readings or assignments more than expected by chance before the faculty member participated in professional development in high engagement instructional strategies. This finding does not support H9.

Table 17

Observed and Expected Results of the Chi-square Test of Equal Percentages for H9

Response	Observed	Expected
Never	29	24.5
Sometimes	55	24.5
Often	11	24.5
Very Often	3	24.5

H10. Students do not report more than 5 hours in a typical week preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to their program) before the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H10. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 58.394$, $df = 5$, $p = .000$. As summarized in Table 18, students reported between 1 and 20 hours in a typical week preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to their program) more than expected by chance before the faculty member participated in professional development in high engagement instructional strategies. This finding does not support H10.

Table 18

Observed and Expected Results of the Chi-square Test of Equal Percentages for H10

Response	Observed	Expected
None	2	16.5
1-5 hours	32	16.5
6-10 hours	32	16.5
11-20 hours	21	16.5
21-30 hours	10	16.5
More than 30 hours	2	16.5

RQ2. To what extent do students report that they are engaged in learning after the faculty member participated in professional development in high engagement instructional strategies?

H11. Students report they asked questions in class or contributed to class discussions after the faculty member participated in faculty development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H11. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 35.565$, *df* = 3, *p* = .000. As summarized in Table 19, students reported they often asked questions in class or contributed to class discussions more than expected by chance after the faculty member participated in professional development in high engagement instructional strategies. This finding supports H11.

Table 19

Observed and Expected Results of the Chi-square Test of Equal Percentages for H11

Response	Observed	Expected
Never	1	23
Sometimes	24	23
Often	41	23
Very Often	26	23

H12. Students report that they made a class presentation after the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H12. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 27.286$, $df = 3$, $p = .000$. As summarized in Table 20, students reported they sometimes made a class presentation more than expected by chance after the faculty member participated in professional development in high engagement instructional strategies. This finding supports H12.

Table 20

Observed and Expected Results of the Chi-square Test of Equal Percentages for H12

Response	Observed	Expected
Never	15	22.75
Sometimes	44	22.75
Often	19	22.75
Very Often	13	22.75

H13. Students report that they worked with other students on projects during class after the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H13. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 15.303$, $df = 3$, $p = .000$. As summarized in Table 21, students reported they worked with other students on projects during class more than expected by chance after the faculty member participated in professional development in high engagement instructional strategies. This finding supports H13.

Table 21

Observed and Expected Results of the Chi-square Test of Equal Percentages for H13

Response	Observed	Expected
Never	7	22.50
Sometimes	37	22.50
Often	32	22.50
Very Often	14	22.50

H14. Students report that they worked with classmates outside of class to prepare class assignments after the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H14. The observed frequencies were compared to the frequencies expected by chance. The level of

significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 15.945$, $df = 3$, $p = .001$. As summarized in Table 22, students reported they never or sometimes worked with classmates outside of class to prepare class assignments more than expected by chance after the faculty member participated in professional development in high engagement instructional strategies. This finding does not support H14.

Table 22

Observed and Expected Results of the Chi-square Test of Equal Percentages for H14

Response	Observed	Expected
Never	28	22.75
Sometimes	32	22.75
Often	24	22.75
Very Often	7	22.75

H15. Students report that they tutored or taught other students (paid or voluntary) after the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H15. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 65.652$, $df = 3$, $p = .000$. As summarized in Table 23, students reported they never tutored or taught other students (paid or voluntary) more than expected by chance after the faculty member participated

in professional development in high engagement instructional strategies. This finding

does not support H15.

Table 23

Observed and Expected Results of the Chi-square Test of Equal Percentages for H15

Response	Observed	Expected
Never	52	22.25
Sometimes	26	22.25
Often	6	22.25
Very Often	5	22.25

H16.Students report that they participated in a community-based project as a part

of a regular course after the faculty member participated in professional development in

high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H16. The observed

frequencies were compared to the frequencies expected by chance. The level of

significance was set at .05. The results of the test indicated a statistically significant

difference between the observed and expected frequencies, $\chi^2 = 75.901$, $df = 3$, $p = .000$.

As summarized in Table 24, students reported they never participated in a community-

based project as a part of a regular course more than expected by chance after the faculty

member participated in professional development in high engagement instructional

strategies. This finding does not support H16.

Table 24

Observed and Expected Results of the Chi-square Test of Equal Percentages for H16

Response	Observed	Expected
Never	56	22.75
Sometimes	24	22.75
Often	9	22.75
Very Often	2	22.75

H17. Students report they discussed ideas from readings or classes with others outside of class (students, family members, co-workers, etc.) after the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H17. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 38.011$, $df = 3$, $p = .000$. As summarized in Table 25, students reported they sometimes discussed ideas from readings or classes with others outside of class (students, family members, co-workers, etc.) more than expected by chance after the faculty member participated in professional development in high engagement instructional strategies. This finding does not support H17.

Table 25

Observed and Expected Results of the Chi-square Test of Equal Percentages for H17

Response	Observed	Expected
Never	11	22.75
Sometimes	47	22.75
Often	22	22.75
Very Often	11	22.75

H18. Students report they worked on a paper or project that required integrating ideas or information after the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of equal percentages was conducted to test H18. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 34.967$, $df = 3$, $p = .000$. As summarized in Table 26, students reported they sometimes or often worked on a paper or project that required integrating ideas or information more than expected by chance after the faculty member participated in professional development in high engagement instructional strategies. This finding supports H18.

Table 26

Observed and Expected Results of the Chi-square Test of Equal Percentages for H18

Response	Observed	Expected
Never	2	22.75
Sometimes	24	22.75
Often	43	22.75
Very Often	22	22.75

H19. Students report they came to class with completed readings or assignments after the faculty member participated in professional development in high engagement instructional strategies.

Prior to interpreting the results of the hypothesis testing, this item was reverse coded, as never and sometimes being the positive response. A Chi-square test of equal percentages was conducted to test H19. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 49.182$, $df = 3$, $p = .000$. As summarized in Table 27, students reported they never or sometimes came to class without completing readings or assignments more than expected by chance after the faculty member participated in professional development in high engagement instructional strategies. This finding supports H19.

Table 27

Observed and Expected Results of the Chi-square Test of Equal Percentages for H19

Response	Observed	Expected
Never	33	22
Sometimes	43	22
Often	8	22
Very Often	4	22

H20. Students report more than 5 hours in a typical week preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to their program) after the faculty member participated in professional development in high engagement strategies.

A Chi-square test of equal percentages was conducted to test H20. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 54.400$, $df = 5$, $p = .000$. As summarized in Table 28, students reported between 1 and 10 hours in a typical week preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to their program) more than expected by chance after the faculty member participated in professional development in high engagement instructional strategies. This finding supports H20.

Table 28

Observed and Expected Results of the Chi-square Test of Equal Percentages for H20

Response	Observed	Expected
None	2	15
1-5 hours	34	15
6-10 hours	26	15
11-20 hours	16	15
21-30 hours	7	15
More than 30 hours	5	15

RQ3. To what extent is there a change in student reports of their engagement from before the faculty participated in professional development in high engagement instructional strategies to after the faculty participated in professional development in high engagement instructional strategies?

H21. There is a difference in students reporting they asked questions in class or contributed to class discussions from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of independence was conducted to test H21. For each test, the observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated there was not a significant difference between the observed and expected frequencies, $\chi^2 = .070$, $df = 3$, $p = .995$. As summarized in Table 29, students reported asking questions in class with similar frequency from before the faculty participated in professional development in high

engagement instructional strategies to after the faculty participated in professional development in high engagement instructional strategies. This finding does not support H21.

Table 29

Observed and Expected Results of the Chi-square Test of Independence for H21

Year	Frequency	Observed	Expected
2013			
	Never	1	1.0
	Sometimes	25	25.4
	Often	46	45.1
	Very Often	27	27.5
2016			
	Never	1	1.0
	Sometimes	24	23.6
	Often	41	41.9
	Very Often	26	25.5

H22. There is a difference in students reporting that they made a class presentation from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of independence was conducted to test H22. For each test, the observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated there was not a significant difference between the observed and expected frequencies, $\chi^2 = 4.878$, $df = 3$, $p = .181$. As summarized in Table 30, students reported having made a class presentation with

similar frequency from before the faculty participated in professional development in high engagement instructional strategies to after the faculty participated in professional development in high engagement instructional strategies. This finding does not support H22.

Table 30

Observed and Expected Results of the Chi-square Test of Independence for H22

Year	Frequency	Observed	Expected
2013			
	Never	26	21.4
	Sometimes	38	42.7
	Often	26	23.4
	Very Often	9	11.5
2016			
	Never	15	19.6
	Sometimes	44	39.3
	Often	19	21.6
	Very Often	13	10.5

H23. There is a difference in students reporting that they worked with other students on projects during class from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of independence was conducted to test H23. For each test, the observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated there was not a significant

difference between the observed and expected frequencies, $\chi^2 = 2.995$, $df = 3$, $p = .392$.

As summarized in Table 31, students reported having worked with other students on projects during class with similar frequency from before the faculty participated in professional development in high engagement instructional strategies to after the faculty participated in professional development in high engagement instructional strategies. This finding does not support H23.

Table 31

Observed and Expected Results of the Chi-square Test of Independence for H23

Year	Frequency	Observed	Expected
2013			
	Never	1	8.9
	Sometimes	47	44.0
	Often	34	34.6
	Very Often	8	11.5
2016			
	Never	7	8.1
	Sometimes	37	40.0
	Often	32	31.4
	Very Often	14	10.5

H24. There is a difference in students reporting that they worked with classmates outside of class to prepare class assignments from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of independence was conducted to test H24. For each test, the observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a statistically significant difference between the observed and expected frequencies, $\chi^2 = 10.368$, $df = 3$, $p = .016$. As is summarized in Table 32, fewer students reported working with classmates outside of class to prepare for assignments before the faculty participated in professional development in high engagement instructional strategies than after the faculty participated in professional development in high engagement instructional strategies. This finding supports H24.

Table 32

Observed and Expected Results of the Chi-square Test of Independence for H24

Year	Frequency	Observed	Expected
2013			
	Never	46	38.4
	Sometimes	35	34.7
	Often	16	20.7
	Very Often	1	4.1
2016			
	Never	28	35.6
	Sometimes	32	32.3
	Often	24	19.3
	Very Often	7	3.9

H25. There is a difference in students reporting that they tutored or taught other students (paid or voluntary) from before the faculty member participated in professional

development in high engagement instructional strategies to after the faculty member

participated in professional development in high engagement instructional strategies.

A Chi-square test of independence was conducted to test H25. For each test, the

observed frequencies were compared to the frequencies expected by chance. The level of

significance was set at .05. The results of the test indicated there was not a significant

difference between the observed and expected frequencies, $\chi^2 = 3.960$, $df = 3$, $p = .266$.

As is summarized in Table 33, students reported having tutored or taught other students

(paid or voluntary) with similar frequency from before the faculty participated in

professional development in high engagement instructional strategies and after the faculty

participated in professional development in high engagement instructional strategies.

This finding does not support H25.

Table 33

Observed and Expected Results of the Chi-square Test of Independence for H25

Year	Frequency	Observed	Expected
2013			
	Never	71	64.8
	Sometimes	18	23.2
	Often	5	5.8
	Very Often	5	5.3
2016			
	Never	52	58.2
	Sometimes	26	20.8
	Often	6	5.2
	Very Often	5	4.7

H26. There is a difference in students reporting that they participated in a community-based project as a part of a regular course from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of independence was conducted to test H26. For each test, the observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated a marginally significant difference between the observed and expected frequencies, $\chi^2 = 6.841$, *df* =3, *p* = .077. Although not statistically significant, as is summarized in Table 34, fewer students reported never having participated in a community-based project as a part of a regular course before the faculty participated in professional development in high engagement instructional strategies than after the faculty participated in professional development in high engagement instructional strategies. This finding supports H26.

Table 34

Observed and Expected Results of the Chi-square Test of Independence for H26

Year	Frequency	Observed	Expected
2013			
	Never	76	68.8
	Sometimes	15	20.3
	Often	8	8.9
	Very Often	0	1.0
2016			
	Never	56	63.2
	Sometimes	24	18.7
	Often	9	8.1
	Very Often	2	1.0

H27. There is a difference in students reporting that they discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.) from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of independence was conducted to test H27. For each test, the observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated there was not a significant difference between the observed and expected frequencies, $\chi^2 = 4.787$, $df = 3$, $p = .188$. As is summarized in Table 35, students reported discussing ideas from readings or classes with others outside of class (students, family members, co-workers, etc.) with similar frequency from before the faculty participated in professional development in high

engagement instructional strategies and after the faculty participated in professional development in high engagement instructional strategies. This finding does not support H27.

Table 35

Observed and Expected Results of the Chi-square Test of Independence for H27

Year	Frequency	Observed	Expected
2013			
	Never	13	12.5
	Sometimes	44	47.4
	Often	36	30.2
	Very Often	6	8.9
2016			
	Never	11	11.5
	Sometimes	47	43.6
	Often	22	27.8
	Very Often	11	8.1

H28. There is a difference in students reporting that they worked on a paper or project that required integrating ideas or information from before the faculty member participated in professional development in high engagement instructional strategies to after the faculty member participated in professional development in high engagement instructional strategies.

A Chi-square test of independence was conducted to test H28. For each test, the observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated there was not a significant difference between the observed and expected frequencies, $\chi^2 = 3.049$, $df = 3$, $p = .384$.

As is summarized in Table 36, students reported having worked on a paper or project that

required integrating ideas or information with similar frequency from before the faculty

participated in professional development in high engagement instructional strategies and

after the faculty participated in professional development in high engagement

instructional strategies. This finding does not support H28.

Table 36

Observed and Expected Results of the Chi-square Test of Independence for H28

Year	Frequency	Observed	Expected
2013			
	Never	7	4.7
	Sometimes	29	27.6
	Often	40	43.2
	Very Often	23	23.4
2016			
	Never	2	4.3
	Sometimes	24	25.4
	Often	43	39.8
	Very Often	22	21.6

H29. There is a difference in students reporting that they came to class without

completing readings or assignments from before the faculty member participated in

professional development in high engagement instructional strategies to after the faculty

member participated in professional development in high engagement instructional

strategies.

A Chi-square test of independence was conducted to test H29. For each test, the

observed frequencies were compared to the frequencies expected by chance. The level of

significance was set at .05. The results of the test indicated there was not a significant

difference between the observed and expected frequencies, $\chi^2 = 1.812$, $df = 3$, $p = .612$.

As is summarized in Table 37, students reported having come to class without completing

readings or assignments with similar frequency from before the faculty participated in

professional development in high engagement instructional strategies and after the faculty

participated in professional development in high engagement instructional strategies. This

finding does not support H29.

Table 37

Observed and Expected Results of the Chi-square Test of Independence for H29

Year	Frequency	Observed	Expected
2013			
	Never	29	32.7
	Sometimes	55	51.6
	Often	11	10.0
	Very Often	3	3.7
2016			
	Never	33	29.3
	Sometimes	43	46.4
	Often	8	9.0
	Very Often	4	3.3

H30. There is a difference in students reporting the number of hours a week to

preparing for class (studying, reading, writing, rehearsing, doing homework, or other

activities related to their program) from before the faculty member participated in

professional development in high engagement instructional strategies to after the faculty

member participated in professional development in high engagement instructional strategies.

A Chi-square test of independence was conducted to test H30. For each test, the observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05. The results of the test indicated there was not a significant difference between the observed and expected frequencies, $\chi^2 = 2.750$, $df = 3$, $p = .738$. As is summarized in Table 38, students reported the number of hours a week to prepare for class (studying, reading, writing, rehearsing, doing homework, or other activities related to their program) with similar frequency from before the faculty participated in professional development in high engagement instructional strategies and after the faculty participated in professional development in high engagement instructional strategies. This finding does not support H30.

Table 38

Observed and Expected Results of the Chi-square Test of Independence for H30

Year	Frequency	Observed	Expected
2013			
	None	2	2.1
	1-5 hours	32	34.6
	6-10 hours	32	30.4
	11-20 hours	21	19.4
	21-30 hours	8	8.9
	More than 30 hours	2	3.7
2016			
	None	2	1.9
	1-5 hours	34	31.4
	6-10 hours	26	27.6
	11-20 hours	16	17.6
	21-30 hours	7	8.1
	More than 30 hours	5	3.3

RQ4. What are faculty's perceptions of their own teaching effectiveness in relation to their participation in faculty development in high engagement strategies?

The researcher analyzed 346 archived blog posts submitted by 16 faculty members and conducted an inductive category development using procedures recommended by Bryman (2012) to determine whether or not faculty perceived an increased efficacy in their teaching after participating in the professional development in high engagement instructional strategies. The researcher began the analysis by reading the 346 blogs identifying the context of each and distinguishing the common themes in

each blog. Next, the researcher made notes and created labels for the reoccurring themes and highlighted key phrases. Thirdly, the researcher read the blogs again utilizing the context of the identified themes, categorizing the texts, and eliminating the themes that were not related to the qualitative research question within the study. Lastly, following the inductive category development content analysis approach, the researcher compared the identified themes to determine if faculty perceptions were congruent to the students' responses as well as the literature. To preserve anonymity in the analysis, the faculty were labeled Faculty 1- Faculty 16. The blogs were first analyzed to determine the number of instances in which the themes of WICOR strategies, teaching practices, benefits of faculty development, and non-cognitive issues emerged. There were a number of instances that the researcher could not identify a recurring theme so a category of not relevant to the study, was created for the outliers. There were four themes found within the blogs, including WICOR, Teaching Practices, Benefits of Faculty Development, and Non-Cognitive Issues. Table 39 presents the number of times each of the identified themes were found throughout the blogs and the corresponding percentages of the total number of instances of the themes.

Table 39

Qualitative Themes Instances and Percentages

Theme	k	$\%$
WICOR	82	23.7
Teaching Practices	131	37.9
Benefits of Faculty Development	42	12.1
Non-Cognitive Issues	46	13.3
Not Relevant to Study	45	13.0

Note: k = the number of times the theme was mentioned

The next section explains each theme.

WICOR

Within the faculty blogs, the components of WICOR high engagement instructional strategies were found 82 times for a total of 23.7%. Table 40 presents the number of instances each time WICOR strategies were mentioned and the percentage of the total number each component was mentioned. The researcher coded words that corresponded to the WICOR components or the high engagement instructional strategies categorized within each component. The researcher found that Faculty 3 mentioned both writing and collaboration in one blog, Faculty 4 and Faculty 7 mentioned both writing and inquiry in one blog, and Faculty 9 mentioned both collaboration and inquiry in one blog. Faculty 7 also mentioned writing, inquiry, and collaboration in one blog. These multiple mentions account for the 88 instances that WICOR components were mentioned within 82 faculty blogs.

Table 40

WICOR Components Instances and Percentages

Component	*k*	*%*
Preparing for Student Success	9	10.2
Writing and Speaking to Learn	15	17.0
Inquiry	42	47.7
Collaboration	16	18.2
Organization	2	2.3
Reading and Understanding Visuals	4	4.5

Note: k = the number of times the component was mentioned

As detailed in the results of the qualitative analysis of each component below, Inquiry and Collaboration were the two components of WICOR that were most evident in the faculty blogs.

Preparing for student success. The component of preparing for student success emerged within the faculty blogs in nine instances. Six of the faculty mentioned this component. Faculty 3 incorporated multiple teaching styles into the syllabus for individualized teaching and Faculty 10 found value in both lectures and active learning, concluding that lectures should lay the foundation while active learning should be the application of the knowledge. Faculty 12 questioned the current scheduling model, concerned that the current seat time did not allow enough time to utilize high engagement instructional strategies effectively. Faculty 13 wrote that higher education institutions are responsible for teaching engaged citizenry. Faculty 14 reported feeling encouraged after implementing high engagement instructional strategies into one class successfully, but ultimately found that more practice was necessary when it failed in another class. Faculty 15 refined his syllabus to incorporate high engagement instructional strategies stating, "I decided this semester I will control my eagerness and implement the [high engagement] strategies more methodically." Faculty 15 also indicated a sense of rejuvenation and excitement after making significant enhancements to incorporating a Social Contract in class.

Writing and Speaking to Learn. The component of writing and speaking to learn was mentioned within the faculty blogs in 15 instances. Seven faculty wrote about this component of WICOR. Faculty 1 found that by assigning a research paper, "I am not just developing their psychological skills, or even just their general academic skills. I am

developing amazing, capable, young adults." Faculty 3 recognized that students were either extroverted or introverted and believed that incorporating reflective writing activities, such as brief, timed reflective writing exercises for students (e.g. Quick Writes) not only allowed students to practice the technical skill of writing, but also enabled the introverts a safe technique to express themselves. Faculty 3 also recognized that students need basic strategies to write and for faculty to be patient and approachable during the process. Faculty 4 explained having assigned multiple reflective writing assignments, allowing both time for individual and collaborative refinement, but finding that quality writing was better than quantity. Faculty 7 reported observing success for students when incorporating brief, timed writing exercises, structured, systematic approaches to take, organize, and condense notes (e.g. Cornell Notes), and a note card system for research papers. Faculty 9 also found success requiring students to take Cornell Notes. Faculty 10 incorporated Cornell Notes and found that lectures were more engaging due to allowing the students time to reflect and discuss notes. This faculty member was concerned, however, that while the first two tests showed improvement in grades the third test did not. Faculty 11 used reflective writing to engaged students in discussion after a lecture writing, "I used the 10/2 method having the students reflect on 10 minutes of content [followed by 2 minutes of reflection of that content]."

Inquiry. The component of inquiry emerged within the faculty blogs in 42 instances. Critical thinking or higher order thinking skills are usually associated with inquiry (Custer et al., 2011). Congruent with the WICOR model, inquiry was discussed through the incorporation of various strategies throughout 14 of the faculty blogs. Faculty 1 challenged conventional ways to measure student success by writing, "to me,

success is taking a group of young, impressionable minds and making sure they learn to trust their instincts, and question the status quo." Faculty 2 witnessed inquiry skills as controversial topics were discussed. Faculty 2 also recognized metacognition skills in students, "if they [students] work, they'll succeed no matter whether that success looks like their neighbor's or not." Faculty 3 employed inquiry through self-reflection exercises, identifying strengths and weaknesses for career readiness as well as exploration of test questions. Faculty 4 reported asking students to study a selection of pictures or sit quietly outside to study nature and then complete an analysis of what they felt, heard and saw, hoping to evoke a passion and love for learning. Faculty 5 requested students come to class prepared, educated, and civilized when discussing controversial topics. Faculty 11 and Faculty 13 found apathy and the polar extremes negatively affected civilized debate in their classes. Faculty 7 indicated that applying levels of applied knowledge allowed students to think about their thinking, recognizing that critical thinking was occurring as they asked questions in class. Faculty 7 wrote, "The honest curiosity and engagement is like catnip to cats for me." Faculty 8 reported wanting students to become self-aware of feelings and beliefs to ultimately learn how to communicate to avoid misunderstanding and conflict. Faculty 9 determined that less lecture and more Socratic dialogue was valuable. Faculty 9 wrote, "based on the discussions and comments from students during this class, I judge it worth continuing for now." Faculty 10 requested quantifiable results regarding the use of high engagement instructional strategies but admitted that there had been an increase in the depth of discussions in class as well as test scores. Faculty 11, however, deplored that asking students to think critically only during test time was not an effective practice. Faculty 12

utilized Reciprocal Viewing exercises and found students were engaged in their learning style, synthesizing and analyzing. In reference to the momentum and increased use of inquiry exercises Faculty 12 wrote, "Eventually it becomes self-sustaining with students supplying the metacognition, a rich variety of critical thinking, on their own." After students attended technical skills lab classes, Faculty 14 found that inquiry exercises were met with resistance. Thinking critically and creatively was a challenge but eventually gained momentum in the capstone course. Faculty 15 was challenged with allowing students to struggle on their own and find the answers utilizing the Socratic method of teaching. Faculty 16 recognized that as students come to class prepared and with specific questions, teaching is more effective.

Collaboration. The component of collaboration emerged within the faculty blogs in 16 instances. Eleven faculty wrote about collaboration. Faculty 2 recognized that the increase in peer-to-peer collaboration and faculty to student collaboration led to greater thought provoking discussions in class. Faculty 3 recognized that writing was good for introverted students, collaboration was important for the extroverted students. Faculty 7, however, found that collaborative student sharing exercises like Give One, Take One helped the introverted students feel connected. Faculty 5 reported that collaborative exercises and games can either be chaotic and ineffective or engaging and highly effective in promoting learning, dependent on the facilitation. Faculty 8 studied personality types and employed strategies to manage them during collaborative exercises. Faculty 9 found that collaborative exercises forced all students to be visible and engaged. Faculty 9 wrote, "not only were all of the students intensely engaged in reflection and discussion of philosophies of the first half of the semester, but they were asking for more

and did not want to stop." Faculty 14, Faculty 15, and Faculty 16 reported that students were engaged and successful when they taught their peers.

Organization. The component of organization emerged within the faculty blogs in two instances. Two faculty blogged about this WICOR component. Faculty 14 indicated that the students who enrolled late or procrastinated on assignments until the last minute were often unsuccessful in class. Faculty 16 reported feeling concerned that students were unable to multi-task specifically while studying for a comprehensive final, wondering if this will be a problem in their future careers.

Reading and Understanding Visuals. The component of reading and understanding visuals emerged within the faculty blogs in four instances. Again, two faculty blogged about this WICOR component. Faculty 3 wrote about the value of reading aloud in class, citing studies that it was beneficial to students to not only read but hear the words. Faculty 7 described finding value in the Pre-Reading, Previewing, During Reading, After Reading activities. Referring to personal development, Faculty 7 wrote, "I've been growing in this area as an instructor over the past few years, but especially since I began to incorporate AVID techniques while focusing more intentionally on the steps of the reading cycle."

Teaching Practices

Various teaching and pedagogical practices were the most common theme the researcher found in the analysis of the blogs. Teaching practices were mentioned 131 times or 37.9%. Common topics throughout this theme included engaging all student learning styles, managing class expectations, providing rigor in the curriculum, the quest for continuous improvement, managing student behaviors, creating a classroom culture,

teaching styles and tools, and providing student support. The researcher coded words

that corresponded to teaching practices and categorized each into correlating themes.

Table 41 provides the instances and percentages of instances that each theme emerged

within the faculty blogs.

Table 41

Teaching Practices Instances and Percentages

Theme	*k*	*%*
Engaging all student learning styles	3	2.3
Managing classroom expectations	7	5.3
Providing rigor	11	8.4
Quest for continuous improvement	13	9.9
Managing student behaviors	18	13.7
Creating a classroom culture	19	14.5
Teaching styles and tools	27	20.6
Providing student support	33	25.2

Note: k = the number of times the theme was mentioned

As detailed in the qualitative analysis results below, teaching styles and tools along with

providing student support were the two topics within Teaching Practices that were most

commonly mentioned in the faculty blogs.

Engaging all student learning styles. The topic of student learning styles was

mentioned within the faculty blogs three times. Two faculty wrote about engaging

learning styles. Faculty 2 was challenged to find the appropriate number of high

engagement instructional strategies to meet the needs of all students and felt that there

should be a balance particularly in a competency-based class that in general engages

students due to its technical lab type pedagogy. Faculty 2 specifically wrote about an

instance in which a student was overwhelmed by the high engagement instructional strategies concluding, "in my effort to encourage cohesiveness, collaboration, and community, I lost sight of the importance of the quiet learning environment so many of our students need. So, I failed him." Faculty 13 spoke about the over generalization of technology and the power of using it as a tool to engage multiple learning styles.

Managing classroom expectations. The topic of managing classroom expectations was mentioned within the faculty blogs seven times. Overwhelmingly, Faculty 1, Faculty 2, Faculty 3, Faculty 11, and Faculty 16 expressed that the rules and policies of the class should be communicated and disbursed to the students as these are critical to a student's success. Faculty 16 noted the importance of communicating the expectations on the first day of class. Faculty 11 indicated that setting clear expectations and providing feedback are the strategies that enable students to meet high expectations in class. Faculty 1 wrote about the benefits and necessity of policies, expectations, and rules but found when working with students, "life isn't necessarily fair and that no one knows that better than so many of our overloaded, overstressed students… things aren't always as they appear." Faculty 1 continued by sharing an example of a time in which false assumptions were made about a student. After initiating a conversation with this student and ascertaining the reality of his situation, Faculty 1 reported feeling immediately humbled and vowed to limit the assumptions made about students' intentions in the future. Faculty 2 found that when given freedom in class to meet the expectations of assignments, most students used it wisely. Faculty 3 noted needing to set expectations for the use of technology writing, "just because technology is fun, doesn't mean it's a good tool for learning."

Providing rigor. The topic of providing rigor was mentioned within the faculty blogs 11 times. Faculty 1, Faculty, 4, Faculty 9, Faculty 10, Faculty 12, Faculty 14, Faculty 15, and Faculty 16 expressed that by providing support faculty could maintain high expectations of the students. Faculty 1 expressed concern over the recent phenomena of grade inflation noting that college is a time to challenge students with new thoughts and concepts. Faculty 1 wrote, "But what they will take from a class that assumes they can do more is so much more important than a good grade." Faculty 9 and Faculty 15 questioned if a comprehensive final was an appropriate level of rigor. Faculty 4 wrote about struggling with determining the amount of 'spoon feeding' that was necessary and wanted to grade assignments that offered inspiration and encouragement but realized the grade a student often earned would not achieve that. Faculty 10 also wrote about providing students encouragement to know they can meet the expectations the faculty member set, while Faculty 16 provided an example of a class project that students failed due to choosing not to be prepared even after several attempts by the faculty to prepare them. Faculty 12 in reference to adding more strategic assignments to allow students to think about how they work wrote, "Most of all though, I wonder if we would find that our students are seldom lazy- that in fact, they want to accomplish advanced work and lots of it." Faculty 14 incorporated service-learning projects into the curriculum and ultimately found that while it is often challenging work, the students reported learning much more than if they had completed traditional in-class assignments.

Quest for continuous improvement. The topic of the quest for continuous improvement was mentioned within the faculty blogs 13 times. The majority of faculty wrote about the changing roles and their intrinsic passion and desire for improvement.

Faculty 2 reported feeling that in order to inspire students to learn, faculty members should strive to improve classes every semester. Faculty 4 and Faculty 13 also reported taking steps to improve and tweak classes before every semester. At the beginning of the semester, Faculty 7 wrote, "I look forward to building my confidence in the use of the new tools I've learned and to pushing myself to try more new ones." Faculty 8 compared the career of faculty to that of a doctor and lawyer and that one should always strive to improve. Concerned about the policies of the college that provide barriers to students, Faculty 14 wrote about improving the college to be ready for the diverse levels of preparedness of incoming students, while Faculty 11 found value in the strategy of teaching across disciplines but was met with resistance and power struggles. Faculty 15 wrote about the lessons learned from teaching and provided areas of improvement on a personal level. Faculty 15 wrote, "Do not compare teaching styles to other instructors because each has a unique style with personality influences."

Managing student behaviors. The topic of managing student behaviors was mentioned within the faculty blogs 18 times. Many of the faculty wrote about respect and interpersonal skills that the students seemed to be lacking. There were multiple variances within the topic of student behaviors. Both Faculty 1 and Faculty 2 wrote about experiences with disrespectful argumentative students during class discussions. Faculty 3 and Faculty 10 wrote about the frustrations of students not paying attention to lectures, but Faculty 3 believed that the challenge for students to pay attention was a result of the distractions going on in other areas of their lives. Faculty 5 was concerned that the increase in collaboration among students increased the negativity and discussion of other teachers as well as an increase in student office visits requesting additional help.

Faculty 8 wrote about students' personality styles and the challenge of influencing and managing this in a class setting, while faculty 10 felt challenged with knowing whether to correct students' bad behavior. Faculty 13 wrote about feeling discouraged that students seemed to lack passion and were only there to get a grade. Faculty 15 reported offering students multiple methods to discuss grades and challenges throughout the semester, but found that too many students waited until the end of the semester to be concerned. Faculty 16 wrote about students' lack of passion, accountability, and inability to study or think critically only wanting rote memorization assessments. In reference to students who failed a test and were surprised, Faculty 16 noted that that the first step must be for students to take responsibility that they failed to or inadequately studied and wrote, "We must teach these students techniques on how to study on top of an already busy schedule of demands."

Creating a classroom culture. The topic of creating a classroom culture was mentioned within the faculty blogs 19 times. There was a consistent message that faculty wanted to create a safe, supportive learning environment that consisted of mutual respect. Faculty 1 expressed a desire that the positive energy, excitement, and passion in the first week of class could be maintained throughout the semester, while faculty 6 wanted to keep the level of engagement during a show week all semester. Faculty 3 wrote about strategies to keep the negativity out of the classroom concluding, "Students can benefit by seeing us model behaviors like optimism, laughter, and giving." Faculty 5 wrote about creating safe learning environments that promoted positivity, respect, and trust. Faculty 16 added diversity to that list and Faculty 14 added collaboration. Faculty 8 noted that faculty should be facilitators during the civil engagement debates that can take

place in the classroom by creating a safe, respectful environment. Faculty 10 found that

Social Contracts worked, "My take away is Social Contracts are helpful and give students

ownership of the classroom behavior and learning environment." Faculty 13 reported

feeling discouraged after an experience observing a middle school in which he found that

the students and teachers were on a strict, tight timeline that resembled military or prison.

Faculty 13 wrote, "After being drilled for some time, the teacher relaxed a bit and led

them into some discussion looking for synthesis and critical thinking. Some students

responded, but many students just silently kept their heads down and didn't hazard a

peep." Faculty 16 wrote about creating a culture that would allow both the extroverted

learner and the introverted learner to thrive, adding that continuously building relevancy

around content created a positive learning environment.

Teaching style and tools. The topic of teaching styles and tools was mentioned

within the faculty blogs 27 times. Faculty members wrote multiple blogs on the topic of

using technology as a tool to augment teaching including interactive online games such

as Kahoot to light boards, recording lectures, Zoom, and Prezi. Faculty 1 utilized an

online competitive game and found that it caused the students to study early. Faculty 7

employed multiple technologies to engage students including a light board that enabled

the lectures in online lectures to be more realistic. Faculty 9 described the light board

tool:

> As was demonstrated during professional development days in August, this
>
> technology allows the instructor to write on a 'see-through' glass panel as he
>
> would a white board and a also record a video. The advantage for the student
>
> (presumably online) is that she can see the content from the board without the

instructor getting in the way, the instructor can face the student and refer directly
to the material on the board as he lectures without stopping and turning around or
talking away from the student, and the student can see the instructor's face,
expressions, and body language as he works through content on the board.

Faculty 9 indicated that a teacher's job is to influence thinking and believed lectures and storytelling could be effective methods of teaching. Faculty 10 agreed that a gifted speaker could produce an effective lecture. Faculty 12 indicated that when utilizing the high engagement instructional strategies, it is best to be intentional at informing the students about the relevancy and alignment of that strategy to their learning. Faculty 2 and Faculty 8 indicated that faculty presence in online classes is critical to student success. Faculty 3 and Faculty 10 indicated that connection building, using humor, and effective listening are effective in promoting engagement, often outweighing content. Faculty 14 and Faculty 16 reiterated that humor and comedy could be effective in engagement. Faculty 11 reflected on teaching by comparing the role of the teacher to a coach or referee and stated, "Let the students learn within the rules of the game." Faculty 15 found that after attending the faculty development and utilizing various high engagement instructional strategies in class, "My courses are still rigorous, and all the required material is covered. The delivery method has changed from an instructor centered environment to student driven learning community."

Providing student support. The topic of providing student support was mentioned within the faculty blogs 33 times. The blogs centered more on the caring support faculty could provide and less about the physical resources. Removing barriers, establishing a relationship, and being available to the students was a common thread

throughout the blogs. Faculty 1 referenced the experience of watching an obstacle race and indicated that faculty should support the students by being down in the trenches and mud with them. Faculty 3 believed that showing concern, respect, and responsiveness provided support and Faculty 2 shared a method that could calm the students' fears and anxieties from the first day of class. Faculty 4 compared faculty to seed sowers indicating that at times the support and content is scattered, but it might not thrive in all students. Faculty 4 wrote, "we can do what we do in faith that some of those seeds will fall into fertile earth." Faculty 10 found that a small gesture of providing coffee for students built a connection, "Communication both in person and questions/clarification of content via email has blossomed." Faculty 7, Faculty 11, and Faculty 16 expressed an appreciation for the times when students came back and shared their successes, indicating that this created the motivation needed to continue on the particularly rough days. Faculty 11 indicated that, "passion engenders trust" and that students are more likely to connect with faculty members who are willing to display passion. Faculty 7 expressed a desire of wanting to instill a love of learning and Faculty 15 expressed the desire of wanting to inspire and motivate students as a college staff member once did for her. Faculty 11 and Faculty 14 believed that by teaching interpersonal skills and providing career coaching, students would thrive in a career. Faculty 13 noted that specific content should be the most valuable skill and it is not the role of higher education to teach morals and values but rather only challenge and engage the student and hope for the best.

Benefits of Faculty Development

The theme of faculty development emerged throughout the blogs in 42 instances or 12.1% of the total number of themes. Common topics in the blogs included building

relationships with peers, learning new strategies, faculty collaboration, being a part of a team, and feelings of inspiration and invigoration in teaching. The researcher coded words that corresponded to faculty development and categorized each into correlating themes. Table 42 provides the frequencies and percentages each topic emerged within the faculty blogs.

Table 42

Benefits of Professional Development Instances and Percentages

Theme	*k*	*%*
Feelings of inspiration and invigoration	4	9.5
Building relationships with peers	7	16.7
Faculty Morale	10	23.8
Learning new strategies	10	23.8
Being a part of a team	11	26.2

Note: k = the number of times the theme was mentioned

As detailed in the analysis of each theme, faculty morale, learning new strategies, and being a part of a team were the three topics within Benefits of Professional Development that were most commonly mentioned in the faculty blogs.

Feelings of inspiration and invigoration. The topic of feelings of inspiration and invigoration was mentioned within the faculty blogs four times**.** Faculty expressed an overall feeling that the institution was moving in the right direction. As a transplant from industry who was not formally trained in pedagogy, Faculty 2 shared experiencing an increased level of confidence in teaching and was proud to be employed at the institution. Faculty 15 expressed an increased sense of belonging to the team after several years of turmoil, gleaning from the experience that respect is a key to success. Faculty 7 wrote, "that's how my mind has been lately, invigorated by all these new techniques I've been

trying, invigorated by the energy and enthusiasm of my colleagues, encouraged and amazed by my students' choice and ability to pay attention, discuss intelligently, dig deeper."

Building relationships with peers. The topic of building relationships with peers was mentioned within the faculty blogs seven times. There was a consensus among the faculty that building relationships happened in informal settings that allowed them to discuss topics that were relevant and current. Faculty 1 found that she was a better teacher after connecting with other faculty across disciplines. She wrote, "it was so wonderful watching my colleagues in their element, doing what they do best." Faculty 4 found that by connecting and 'venting' with colleagues, she began to feel less frustrated and isolated, indicating that having networks outside the institution was valuable as well. Faculty 7 reported feeling that comradery had spread throughout the institution and that there was greater collaboration in all faculty meetings, and faculty 16 found a 'sense of belonging' that had been missing. Faculty 10 found that the benefit of building relationships with colleagues developed into a skill to share with students.

Faculty morale. The topic of faculty morale was mentioned within the faculty blogs 10 times. Progressing from a time of transition in leadership and tumultuous events, Faculty 1, Faculty 5, Faculty 7, and Faculty 8 expressed feeling a positive shift in morale. Faculty 1 reported feeling a stronger connection with colleagues, the institution and the students. Faculty 7 noted that sharing a feeling of being overwhelmed and internalizing students' challenges with colleagues resulted in a sense of relief. Faculty 8 expressed the feeling that the ancillary benefits of faculty development fulfilled multiple levels of Maslow's Hierarchy of Needs. Faculty 5 explained that there were some faculty

who continue to complain about professional development, but personally expressed an opinion that there was value in participating in relevant activities and that more opportunities to collaborate is always better.

Learning new strategies. The topic of learning new strategies was mentioned within the faculty blogs in 10 instances. Faculty 1 reported feeling a sense of dread in having to participate in the faculty observation component of the practicum, but ultimately found that he learned the most new strategies during these observations. Faculty 3 reiterated the benefits of the peer observations but advised that it was a time to observe and not compare while Faculty 16 noted finding value in observing colleagues both within her discipline and outside her discipline. Faculty 2 explained that discussing the practices and being vulnerable enough to speak about the failures was an effective practice in learning new strategies. Faculty 7 reported that the increase in comradery through required professional development activities allowed for an increase in learning new strategies. Faculty 14 expressed that presenting to peers or having peers observe a class was intimidating writing, "I have always wondered why it is so much easier to present in front of my students than it is to present in front of my peers." Faculty 14 further reported that subbing for a colleague provided opportunities to learn new teaching strategies, due to having to identify strategies to help a different set of students.

Being a part of a team. The topic of being a part of a team was mentioned within the faculty blogs 11 times. One of the challenges of a large, academically diverse institution is often faculty and staff feeling isolated. Faculty overwhelmingly reported that participation in the practicum led to a team mentality dedicated to increasing student success. Faculty 1 wrote, "We are not alone in our classroom trying to figure out how to

reach each student. We have numerous support systems to rely on." Faculty 1 clarified that it is necessary to create environments that faculty not only share successes and solve problems but to hold each other accountable for student success. In discussing AVID and the success of students at the institution level, Faculty 3 wrote, "it takes a village for a student to be successful… maybe we are the bridge that leads them from the village out into the global society that is our world and their future." Faculty 8 and Faculty 10 wrote about the value of a leader and facilitator of a team and found that both roles are critical to a team's success. Faculty 15 expressed a feeling of pride to be a part of team that was creating an innovative strategy for student success.

Non-Cognitive Issues

The theme of addressing non-cognitive issues with students emerged throughout the blogs in 46 occurrences or 13.9% of the time. Common topics in the blogs included goal setting, student's mindset, holding students accountable, providing care and empathy, connecting and mentoring, and establishing conditions for student success. The researcher coded words that corresponded to non-cognitive issues and categorized each into correlating themes. Table 43 provides the frequencies and percentages each topic emerged within the faculty blogs.

Table 43

Non-Cognitive Issues Instances and Percentages

Theme	*k*	*%*
Goal Setting	3	6.5
Connecting and mentoring students	3	6.5
Student Mindset	7	15.2
Providing care and empathy	8	17.4
Holding students accountable	9	19.6
Establishing conditions for student success	16	34.8

Note: k = the number of times the theme was mentioned

As detailed in the analysis of each theme, establishing conditions for student success was the topic within non-cognitive Issues that was most commonly mentioned in the faculty blogs

Goal setting. The topic of goal setting emerged within the faculty blogs in three instances. The faculty members who spoke of goal setting felt that it was necessary for students to set realistic goals with the help of a faculty member. Faculty 10 reported that it is common practice to help students set goals and identify the steps to achieve these goals, but there is seldom a discussion regarding if these goals are realistic. Faculty 16 clarified that there appears to be an overall message of encouragement and support that a student can accomplish anything and conversations about realistic goals is difficult. Faculty 15 reported determining that students define success in different ways, noting that some students are simply proud to be a college student and passing a class. Faculty 15 wrote, "Maybe not doing well in high school and being a first-generation college student brings them a feeling of accomplishment and graduating or completing college is not their ultimate personal goal."

Connecting and mentoring students. The topic of connecting and mentoring students was mentioned within the faculty blogs three times. The faculty collectively found that due to the diverse challenges that students face, the need for mentoring and connection was impactful to their success. Faculty 8 wrote, "a lot of times in my own teaching I find that a lot of the student's success depends on how well the connection with the professor is." Faculty 8 clarified that there were instances when becoming a coach or mentor to students was necessary. Faculty 4 reported feeling a sense that by making connections and mentoring students it became difficult to foster false generalizations and assumptions about the students.

Student mindset. The topic of student mindset was mentioned within the faculty blogs seven times. Faculty 6 reported that a growth mindset in music would be a positive influence in other subjects as well. Faculty 7 noted that students either played the 'blame game' when earning a low grade or allowed that grade to be the foundation of their improvement. Faculty 15 and Faculty 16 reported the same theory regarding a student who returned to school after failing out. Faculty 16 expressed feeling that it was unhealthy to classify students with a fixed or growth mindset and indicated that while students should not be rewarded or graded on effort, a low grade can be self-defeating if the student perceives that he or she gave their best.

Providing care and empathy. The topic of providing care and empathy was mentioned within the faculty blogs eight times. Faculty 1 described attending students' activities and events demonstrated caring, while Faculty 2 expressed feeling honored to be a part of students lives trying to always remember that despite their annoying habits of being tardy or talking in class the brief moment they are in class can define the trajectory

of their lives. Faculty 3 indicated that a simple smile showed a great deal of caring, while faculty 4 reported that a positive, encouraging comment could make students feel validated. Faculty 3 provided staggering statistics of the increase in mental health issues that students could be dealing with personally or within their families. Faculty 3 wrote:

It is increasingly important for all of us to remember that the way we care for our students is probably just as important if not more important that what we deliver in our classes. This doesn't mean that we all have to function as counselors. It does mean that we should be aware, to the best of our ability, of what is going on in our student's lives that is interfering with their classroom performance.

Faculty 8 explained that by recognizing where students are coming from fosters a level of caring. Faculty 14 recognized that there are many reasons that students choose to come to school at the institution, and there should be a commitment to make them feel welcomed. Faculty 14 reported struggling with the level of care to provide after a tragic situation affected the students in her class.

Holding students accountable. The topic of holding students accountable was mentioned within the faculty blogs nine times. Being accountable to oneself and others is necessary for success and Faculty 7 noted that students are currently not being allowed to face failure due to their 'helicopter parents' and the current K-12 school system. Faculty 7 expressed frustration by witnessing students who repeated courses in the spring semester continue to participate in the same behavior that caused them to be unsuccessful the first time. Faculty 10 reported a concern about the complacency and apathy students displayed and worried that despite faculty efforts, students are not prepared for every challenge they will face or the decisions they make that will have a lasting impact.

Regarding the decisions students have to make, Faculty 10 wrote, "we can, however, teach them the importance of the little decisions and do our best to provide the vison for them to see how it will affect their future." Faculty 13 and Faculty 16 explained that students must be intrinsically motivated to be engaged, noting that students have to be accountable for their learning. Faculty 16 reported feeling dismayed by the students who grew concerned about their low grades only during finals week.

Establishing conditions for student success. The topic of establishing conditions for student success was mentioned within the faculty blogs sixteen times. The myriad of issues that students face can challenge their ability to succeed. Faculty 1 reported feeling that by getting to know the students and trying to understand where they are coming from, faculty feel a sense of pride when they succeed. Faculty 1 and Faculty 2 suggested that most faculty at a community college are innately kind and while it is important to teach students to be responsible, they cannot be successful without being shown a little bit of grace in late assignment and poor choices. Faculty 1 reported feeling that the Vice President of Academics is a great role model for establishing conditions for student success and wrote, "Students need us and if each of us did just a little bit more, think of the difference we could make in their lives." Faculty 3 explained that by teaching students healthy habits and methods of increasing happiness could help ensure success. Faculty 4 reported that content is not the most important element in a class, but sometimes it is simply providing a safe place to exist. Faculty 8 explained that it is necessary to learn how students identify with the subject on an emotional level for learning to take place. Faculty 10 reported feeling inspired by witnessing students' transformations and wrote, "when I can work hand-in-hand with the student on clinical

issues, on academic issues, on test strategies or whatever, and I see them implement things that improve their performance, I see a change in that individual." Faculty 11 noted that the power of positive affirmation was impactful and that faculty should continuously repeat positive skills while addressing negative behavior in a student specifically but not publicly. Faculty 11 explained that we should provide an environment in which students are cared for and feel safe communicating their mental state. Faculty 16 described that teaching is not a 'one size fits all' and noted that faculty should care more about the student than the discipline they teach. Faculty 16 wrote, "while we are teaching our own content areas, it is the students that we are teaching those subjects to, and that cannot get lost in the shuffle of getting through the material."

Summary

Chapter 4 presented the results of the hypothesis testing and qualitative content analysis. Chapter 5 includes a summary of the study, providing an overview of the problem, the purpose statement and research questions, a review of the methodology, the major findings, and the findings related to literature. Additionally, the conclusions are presented including implications for action, the recommendations for future research and concluding remarks.

Chapter Five

Interpretation and Recommendations

Chapter 5 begins with a comprehensive summary of the study including an overview of the problem, purpose statement, research questions, review of the methodology, and major findings from the hypothesis testing and qualitative content analysis. The major findings are then related to the literature identified in Chapter 2. Chapter 5 concludes with implications for action, recommendations for future research and general conclusions.

Study Summary

A summary of the study is provided in this section beginning with an overview of the problem. The purpose statement and research questions that guided the study are stated and the methodology is reviewed. The major findings from the hypothesis testing and content analysis conclude this section.

Overview of the problem. As the public's demands for transparency and accountability in the quality and value of higher education increases, an obligation to validate the current methods of professional faculty development within higher education becomes necessary to assess its effectiveness in improving students' engagement. Tinto (2012), Bailey et al. (2015), and Kuh et al. (2010) found that a student engaged in learning was more likely to be retained and persist to degree completion. Specifically, Kuh et al. (2010) reported that student persistence, learning, and success are dependent upon the ability of educators to employ high engagement strategies that result in a higher level of learning. Providing professional development on pedagogical practices is often a challenge faced by college administrators, but the ancillary benefits of faculty gaining

confidence in the classroom, feeling supported by fellow faculty members, and empowerment to contribute to the institution's role in creating conditions for student success is the ultimate result (Tinto, 2012). Seeking the most efficient and effective modality and content for professional development that prepares faculty members to teach using high engagement instructional strategies that produces measurable outcomes in increasing overall students' retention and engagement, has become a priority for college administrators (Tinto, 2012). While there may never be a collective model of faculty development that can address the diversity and complexity of all colleges and universities, a study in best practices is warranted. Historically, student engagement has been a term used to describe campus life outside of the classroom and the areas of development focused on student life divisions (Tinto, 2012). As student engagement in the learning process has not always been common in the traditional academic model of delivering pedagogy, a modification in the delivery of pedagogy necessitates professional training and development of faculty at all levels. Kuh, et al. (2010) indicated the two key components that contribute to student retention and engagement are: (a) the amount of time and effort students give to their studies, and (b) the activities and the allocation of resources that institutions establish for the students to benefit from learning opportunities.

A public, two-year, co-educational institution in Kansas served as a site for this study. Recognizing the necessity to increase student engagement leading to retention, the institution invested in AHE and professional development in high engagement instructional strategies. By the end of the summer of 2016, approximately 60% of the faculty members had been trained in WICOR and high engagement instructional

strategies (Director of Faculty Development, personal communication, February 17, 2017).

  Purpose statement and research questions. Four purposes guided this study to determine the impact of professional development in high engagement instructional strategies at a public, two-year, co-educational institution in Kansas on increasing student engagement scores as well as faculty perception of the relationship between professional development and an increased efficacy of teaching. The first purpose of the study was to conduct an analysis of archived survey data encompassing students' ratings of their engagement in learning in courses prior to the participation of the faculty members in professional development in high engagement instructional strategies. The second purpose of the study was to conduct an analysis of archived survey data encompassing students' ratings of their engagement in learning in courses after the participation of the faculty members in professional development in high engagement instructional strategies. The third purpose of the study was to measure the extent of change in students' ratings prior to and after the participation of faculty members in professional development in high engagement instructional strategies. The fourth purpose of the study was to analyze faculty members' perception about the impact of professional development in high engagement instructional strategies on increased efficacy in teaching.

  Review of the methodology. A convergent mixed methods research design was used to conduct the study. Archival data of student responses from the CCSSE administered at a public, two-year, co-educational institution in Kansas from the spring of 2013 and the spring of 2016 were analyzed for the quantitative portion of this study. CCSSE is the instrument College A uses to measure institutional practices and student

behaviors that influence student engagement and retention. For the quantitative portion of the study, there were 99 archived student responses from the 2013 CCSSE and 92 archived student responses from the 2016 CCSSE that were input into SPSS for analysis. The first 20 hypotheses (H1-H20) were tested and the results analyzed utilizing the Chi-square test of equal percentages. The last 10 hypotheses (H21-H30) were tested and the results analyzed utilizing the Chi-square test of independence.

An inductive category development content analysis approach was used to evaluate 346 archived blogs written and submitted by 16 faculty members for the qualitative sample of the study. The blogs were evaluated to find reoccurring themes that emerged from the faculty's blogs. The researcher applied Bryman's (2012) four stages of content analysis to index, code and categorize the text of the blogs.

Major findings. Overall, the results of the quantitative portion of the study did not indicate a statistically significant relationship between faculty participating in professional development in high engagement instructional strategies and an increase in students reporting being engaged in learning. However, through the analysis of students reporting engagement prior to the faculty participating in professional development of high engagement instructional strategies, three statistically significant findings emerged. These results revealed that students reported:

1. sometimes or never working with classmates outside of class before the faculty member participated in professional development in high engagement instructional strategies,

2. never tutoring or teaching (paid or voluntary) before the faculty member participated in professional development in high engagement instructional strategies, and

3. never participating in a community-based project as a regular part of a course before the faculty member participated in professional development in high engagement instructional strategies.

Through the analysis of students reporting engagement in learning after the faculty members participated in professional development in high engagement instructional strategies, six statistically significant findings emerged. These results revealed that students reported:

1. often asking questions in class or contributing to class discussions after the faculty member participated in professional development in high engagement strategies,

2. sometimes making a class presentation after the faculty member participated in professional development in high engagement strategies,

3. sometimes working with other students on projects during class after the faculty member participated in professional development in high engagement strategies,

4. often working on a paper or project that required integrating ideas or information after the faculty member participated in professional development in high engagement strategies,

5. never or sometimes coming to class without completing readings or assignments after the faculty member participated in professional development in high engagement strategies, and

6. spending 1-10 hours in a typical week preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to their program) after the faculty member participated in professional development in high engagement strategies.

Through the analysis of the extent of change that students reported engagement in learning from before the faculty participated in professional development in high engagement instructional strategies to after the faculty participated in professional development in high engagement instructional strategies, two statistically significant differences emerged. These results revealed that students reported:

1. never working with classmates outside of class to prepare class assignments before the faculty members participated in professional development in high engagement instructional strategies to reporting sometimes working with classmates outside of class to prepare class assignments after the faculty members participated in professional development in high engagement instructional strategies, and

2. never participating in a community-based project as a regular part of a course before the faculty members participated in professional development in high engagement instructional strategies to reporting sometimes participating in a community-based project as a regular part of a course after the faculty members participated in professional development in high engagement instructional strategies.

In addition, five major themes were revealed through the qualitative content analysis of 346 archived blogs written and submitted by the 16 faculty members of the

qualitative sample. These themes were: (a) WICOR components, (b) teaching practices,

(c) benefits of faculty development, and (d) non-cognitive issues. Subcategories under

each of the five major themes were identified and coded. The foundation of AHE,

preparing for student success, within the WICOR components provides the groundwork

of building relationships and creating collaborative learning environments (Custer et al,

2011). Inquiry was the component that was reported the most frequently throughout the

faculty blogs under the WICOR major theme. Critical thinking or higher order thinking

skills are usually associated with inquiry (Custer et al., 2011). Faculty reported

incorporating Inquiry strategies in their classes through various methods. Teaching

Practices was the most common major theme described overall in the faculty blogs.

Faculty reported on teaching styles and tools as well as providing student support most

often under the teaching practices theme. The benefits of faculty development were also

described within the faculty blogs. Faculty reported that learning new strategies and

being part of a team contributed to their perceptions of finding value in faculty

development. Non-cognitive issues of students were also identified and described within

the faculty blogs. Faculty indicated that while students enroll in college with and

encounter a myriad of challenges and issues, being able to alleviate some of those

challenges by establishing conditions for student success was a significant key to

engagement.

Findings Related to the Literature

Several studies summarized in Chapter 2 delineated the methods of using high

engagement and active learning strategies (Bernard, 2015; Bonwell & Eison, 1991;

Cross, 1987; Kahu, 2013; Kuh et al., 2010) to increase student's engagement in learning.

The results of this study align with historical research conducted by Cross (1987) and

Bonwell and Eison (1991), who found that students learn more and engage in higher

order thinking when they are engaged and active participants in instruction. Kahu

(2013), Bernard (2015), and Kuh et al. (2010), found that student behaviors and

motivations coupled with institutional practices are primary influencers of student

engagement. Tinto (2012) found that an environment that is rich in assessment and active

learning provides conditions for student success. More specifically, Sorcinelli (2007) and

Wild and Ebbers (2002) reported on strategies of student led discussions, collaborative

learning, and reflective writing. Similar to the studies by Soccinelli (2007) and Wild and

Ebbers (2002), the current study found students reported 'sometimes and often' to

working with classmates outside of class to prepare class assignments after the faculty

participated in faculty development in high engagement instructional strategies indicating

that collaborative learning methods increased.

Custer et al. (2011) reported that higher education institutions have not been able

to keep up with the changing needs of entering college students and funding cuts have

limited resources needed for their success. AVID provides a collection of high

engagement instructional strategies to supplement course content and academic discipline

instruction (Custer et al, 2011). The foundation of the strategies is based on the WICOR

model: Writing, Inquiry, Collaboration, Organization, and Reading (Custer et al., 2011).

The faculty in this study reported overwhelmingly finding success in the WICOR high

engagement strategies they used in classes.

While there was not a direct correlation to the questions asked on the CCSSE that

would confirm or disconfirm the faculty perceptions, the topics are relevant to the

literature identified in Chapter 2 regarding student engagement and faculty development. Specifically, Lattuca and Stark (2009) as well as Larmar and Lodge (2014) defined and linked metacognition to critical thinking and reflection. Faculty in this study identified that inquiry and critical thinking are necessary components of a student's engagement and learning. In addition, Brunnhuber (2017) found that a student's success is based on motivational and behavioral factors, categorized through emotional intelligence. Faculty in this study reported that students who showed determination and set goals were often the most successful in their classes. Joyce and Showers (2003) acknowledged that faculty development was dependent on not only learning new skills, but also putting those skills into practice, further encouraging collaborative peer teams to plan and discuss new pedagogical implementation strategies. The faculty in this study provided detailed explanations of the benefits they found during the 'huddles' and the peer class observations.

Conclusions

There is limited literature addressing the relationship between high engagement instructional strategies at the post-secondary level and student engagement in classes. Tinto (2012) noted, "Given the widespread investment in faculty and staff development programs, surprisingly few studies connect faculty development to student outcomes" (p.81). Faculty development offered through higher education institutions should contribute to achieving an increase in student's engagement, while increasing faculty members' perceptions that their teaching is effective.

Implications for action. The results of this study have implications for continued improvements in facilitating professional development in high engagement instructional

strategies and measuring its success in increasing student engagement at College A.

Measurable objectives should be established in order to evaluate the effectiveness of the

professional development programs. It is essential that the use of high engagement

instructional strategies continue to be modeled and supported across the institution by the

faculty development team, trained faculty, and administration. Faculty should be allowed

time and encouraged to participate in peer observations and informal cross-curricular

collaborative conversations. Formal classrooms evaluations and student evaluations

should be aligned to measure and evaluate the use of high engagement instructional

strategies in the class.

Recommendations for future research.

If strategically utilized, the CCSSE can be a tool to identify institutional strengths

and weaknesses in student engagement. The first recommendation is to use the CCSSE

to identify both the areas of strengths and weaknesses, align high engagement strategies

to those areas, and develop specific professional development for those high engagement

instructional activities. This professional development should be followed by a study of

the students' academic progress. Perceptions of the students should also be studied

regarding the use of high engagement strategies in their classes.

This study analyzed data from a community college in the Midwest to measure

the impact of professional development in high engagement instructional strategies on

student engagement and faculty perception about the value of faculty development

related to increased efficacy in their teaching. The second recommendation is that studies

should be conducted at additional institutions. Results from these studies could provide a

broader picture of the relationship between professional development in high engagement instructional strategies and student engagement in classes.

An additional recommendation for future research would be to use a different survey instrument. The limitations of the CCSSE are that it is based on opinion, the results are subjective, and the student must choose to provide honest and thorough feedback. Kahu (2013) found that "all surveys have the problems … of limiting the participants' voices and failing to capture the dynamic nature of engagement" (p.762). Kahu (2013) also stated, "Moreover, engagement as a psychological process is considered to malleable, varying in intensity and responsive to the environment, suggesting that there is much that can be done to improve engagement, although more longitudinal and intervention research is needed to support this" (pp. 762-763). Considering the professional development in high engagement instructional strategies at College A had only been used for two years before the study was conducted, it is recommended that future research should include a longitudinal study to assess the relationship between faculty development in high engagement instructional strategies and student engagement.

Concluding remarks. This study posed four research questions to determine the impact of faculty development in high engagement instructional strategies at a public, two-year, co-educational institution in Kansas and its effect on increasing student engagement scores and faculty perception about the value of faculty development related to increased efficacy in their teaching. Previous research validated both the benefits of faculty development and the use of high engagement instructional strategies and active learning to increase student engagement. There is limited research on aligning the

outcomes of professional development in high engagement instructional strategies to an increase in student engagement.

College graduates and current students continue to accumulate enormous debt to pay for an education that has recently been reported by some to be insignificant and irrelevant (Leveille, 2006). Accreditation standards and practices have failed to enforce colleges to measure student learning (Brown, 2013). Internal professional development must address the necessity for a transformation of delivery of pedagogy through innovative development, being cognizant of the need for cost efficiencies due to budget constraints. Providing professional development on pedagogical practices is often a challenge faced by college administrators, but the ancillary benefits of faculty gaining confidence in the classroom, feeling supported by fellow faculty members, and becoming empowered to contribute to the institution's role in creating conditions for student success is the ultimate result (Tinto, 2012). It has become a priority for college administrators to pursue the most efficient and effective professional development that prepares them to teach using high engagement instructional strategies that ultimately result in measurable outcomes in increasing overall students' engagement (Tinto, 2012).

Conditions for student success should include an environment that provides rich assessment and active learning (Tinto, 2012). "There is a large repertoire of active learning strategies from which faculty can draw, including student-led discussions, team learning, peer learning, oral presentations, writing-to-learn activities, case studies, and study groups" (Sorcinelli, 2007, p. 7). Wild and Ebbers (2002) found that including students in the process of determining what resources they need to be successful and providing supplemental instruction for challenging courses are successful models for

student engagement at community colleges. Collaborative learning models and programs have been found to provide a student with a support system of peers that increases the student's desire to complete the program (Wild and Ebbers, 2002). Continued conversations and studies should take place to identify innovative and cost effective faculty development in high engagement instructional strategies that impact student engagement and learning outcomes.

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Appendices

Appendix A: WICOR Model Graphic

WRITING
- Cornell Notes/Learning Logs
- Quickwrites and Reflections
- Process Writing
- Peer Evaluation
- Authentic Writing

READING
- Deep Reading Strategies
- Note-Taking
- Graphic Organizers
- Vocabulary Building
- Summarizing
- Reciprocal Teaching

INQUIRY
- Skilled Questioning Techniques
- Costa's Levels of Thinking
- Socratic Seminars
- Tutorials
- Investigations
- Questions that Guide Research

ORGANIZATION
- Binders and organizational tools
- Calendars, planners, and agendas
- Graphic organizers
- A focused note-taking system
- Tutorials and study groups
- Project planning and SMART goals

COLLABORATION
- Socratic Seminars
- Tutorials
- Philosophical Chairs
- Group Activities
- Peer Editing Groups
- Service Learning

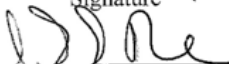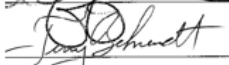Adapted from AVID.org

Appendix B: IRB Form for Baker University

¡BAKER
UNIVERSITY

IRB Request

Date **9-25-17**

IRB Protocol Number _ _ _ _ _ _ _ _ _
(IRB use only)

I. **Research Investigator(s)** (students must list faculty sponsor)

Department(s) **S PGS** _ _ _ _ _ _

Name	Signature	
1. **Tiffani Price**		Principal Investigator
2. **Terry Behrendt**		Check if faculty sponsor
3. Margaret Waterman	Margaret waterman	☐ Check if faculty sponsor
4.		D Check if faculty sponsor

Principal investigator contact information

Note: When submitting your finalized, signed form to the IRS, please ensure that you cc all investigators and faculty sponsors using their official Baker University (or respective organization's) email addresses.

Phone **316-322-5533**

Email tprice@butlercc.edu

Address 522 W 12th Ave

El Dorado, KS 67042

Faculty sponsor contact information

Phone **316-773-1175**

Email tberhrendt@cox.net

Expected Category of Review: D Exempt   0 Expedited   0 Full   D Renewal

II. **Protocol Title**

Formal Faculty Development on High Engagement Strategies:

Impact on Student Engagement and Faculty Efficacy in a Two -Year Post-Secondary Environment

III. Summary:

The following questions must be answered. Be specific about exactly what participants will experience and about the protections that have been included to safeguard participants from harm.

A. In a sentence or two, please describe the background and purpose of the research.

The purpose of this study is to determine if the formal faculty development training of high engagement strategies at a public, two-year, co-educational institution in Kansas is effective in increasing student engagement scores and enabling faculty to perceive an increase in efficacy in their teaching.

B. Briefly describe each condition, manipulation, or archival data set to be included within the study.

There will be no conditions or manipulations included in this study, due to the use of archival data.

IV. Protocol Details

A. What measures or observations will be taken in the study? If any questionnaire or other instruments are used, provide a brief description and attach a copy.

This study will use archival data from the student responses of the institution's Community College Survey of Student Engagement CCSSE in the spring of 2013 and the spring of 2016. CCSSE was the institution's quantitative instrumentation tool used to measure student engagement. CCSSE measures institutional practices and student behaviors that impact student engagement and retention (University of Texas Center for Community College Engagement, 2016.). The study will also use archival blog posts from faculty members in 2016

B. Will the subjects encounter the risk of psychological, social, physical, or legal risk? If so, please describe the nature of the risk and any measures designed to mitigate that risk.

With the use of archival data with statistical analysis, minimal risk to participants will exist. The principal investigator will be not be conducting any surveys.

C. Will any stress to subjects be involved? If so, please describe.

There will be no stress to the subjects as the research design uses archival data and statistical analysis techniques.

D. Will the subjects be deceived or misled in any way? If so, include an outline or script of the debriefing.

Deception will not be a factor used in this study.

E. Will there be a request for information which subjects might consider to be personal or sensitive? If so, please include a description.

No personal or sensitive information will be used. The archival data used will be the student's responses to a set of items to determine their level of engagement in coursework at public, two-year, co-educational institution in Kansas. The names, gender, grade point average or any other verifiable information of the students will not be included in the study. Blogs submitted by faculty members will be analyzed for thematic purposes; the names of faculty members will be removed and not included in the study.

F. Will the subjects be presented with materials which might be considered to be offensive, threatening, or degrading? If so, please describe.

No, the students of faculty members will not be presented with an material that might be considered offensive, threatening, or degrading.

G. Approximately how much time will be demanded of each subject?

As archival data will be used there will be no time required of the subjects.

H. Who will be the subjects in this study? How will they be solicited or contacted? Provide an outline or script of the information which will be provided to subjects prior to their volunteering to participate. Include a copy of any written solicitation as well as an outline of any oral solicitation.

The population for the study will include the students at Butler Community College who completed the CCSSE during the spring of 2013 and the spring of 2016. The first sample will include the students who were enrolled in at least one course taught by a faculty member before they participated in the formal faculty training of high engagement strategies. The second sample will include the students who were enrolled in at least one course taught by a faculty member after they participated in the formal faculty training of high engagement strategies. The sample of faculty members completed a 30-hour training in high engagement strategies and practicum throughout the 2015 2016 academic year.

I. What steps will be taken to insure that each subject's participation is voluntary? What if any inducements will be offered to the subjects for their participation?

Archival data will be used, so there will be not be an opportunity to offer inducements to the subjects.

Baker IRB Submission form page 3 of 4

J. How will you insure that the subjects give their consent prior to participating? Will a written consent form be used? If so, include the form. If not, explain why not.

There will not be a consent form provided as archival data from the Office of Institutional Research will be used.

K. Will any aspect of the data be made a part of any permanent record that can be identified with the subject? If so, please explain the necessity.

The archival data is associated with the student, but is not a part of the student's record at the institution. The researcher will remove all identifying information from the data. The archival data is associated with the faculty member at the institution. The researcher will remove all identifying information from the data.

L. Will the fact that a subject did or did not participate in a specific experiment or study be made part of any permanent record available to a supervisor, teacher, or employer? If so, explain.

No, there will not be any participation or non-participation information on the student's record made available to a supervisor, teacher, or employer. No, there will not be any participation or non-participation information on the faculty member's record made available to a supervisor, teacher, or employer.

M. What steps will be taken to insure the confidentiality of the data? Where will it be stored? How long will it be stored? What will be done with the data after the study is completed?

Access to internal databases was obtained through a password protected computer and database maintained by the institution's Office of Institutional Research and Effectiveness. This database contained the archived, raw data from the 2013 and 2016 CCSSE. The archival, raw data files will be removed from the researcher's computer following the successful defense of the dissertation.

N. If there are any risks involved in the study, are there any offsetting benefits that might accrue to either the subjects or society?

As archival data from the Office of Institutional Research and Effectiveness will be used, there is minimal risk to participants.

O. Will any data from files or archival data be used? If so, please describe.

The study will use archival data from the student responses of the institution's Community College Survey of Student Engagement CCSSE in the spring of 2013 and the spring of 2016. The study will use archival data from faculty members blogs.

Baker IRB Submission form page 4 of 4

Appendix C: IRB Approval from Baker University

Baker University Institutional Review Board

October 19th, 2017

Dear Tiffani Price and Terry Behrendt,

The Baker University IRB has reviewed your project application and approved this project under Expedited Status Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

Please be aware of the following:

1. Any significant change in the research protocol as described should be reviewed by this Committee prior to altering the project.
2. Notify the IRB about any new investigators not named in original application.
3. When signed consent documents are required, the primary investigator must retain the signed consent documents of the research activity.
4. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.
5. If the results of the research are used to prepare papers for publication or oral presentation at professional conferences, manuscripts or abstracts are requested for IRB as part of the project record.

Please inform this Committee or myself when this project is terminated or completed. As noted above, you must also provide IRB with an annual status report and receive approval for maintaining your status. If you have any questions, please contact me at npoell@bakeru.edu or 785.594.4582.

Sincerely,

Nathan Poell, MA
Chair, Baker University IRB

Baker University IRB Committee
     Scott Crenshaw
     Erin Morris, PhD
     Jamin Perry, PhD
     Susan Rogers, PhD

Appendix D: IRB Form for College A

Someone has completed the IRB Submission Form.

Check One: New Project
Check One: Requesting Exempt Status
Project Name: Formal Faculty Development in High Engagement Strategies Impact on Student Engagement and
Faculty Efficacy in a Two-Year Post-Secondary Environment
Principal Investigator (PI): Tiffani Price
PI Phone #: 316-322-5533
PI E-Mail Address: tprice@ ███████████
Project Type: Thesis or dissertation
If you selected "Other" on the previous question, explain here.:
Institution Where Study Will Be Conducted: Baker University
Faculty Sponsor: Terry Berendt
Expected Begin Date: 10/17/2017
Expected Length of Study (in months): 2 months
Research Locations: ██████
Community College Co-Investigator
Name(s):
Co-Investigator Emails:
Co-Investigator(s) Primary Phone:
Student Investigator Name(s):
Student Investigator(s) Email:
Student Investigator(s) Primary Phone:
Does this project or study involve collection of data that identifies individuals (e.g., name, SSN#, date of birth, student number, etc.)? : No
Will data which identifies individuals be shared with anyone (e.g. conference presentations, reports or shared with funding source representatives, etc.)? : No
Have you identified your data sources (e.g. interviews, survey, focus groups, existing data, etc.)?
: Yes
Are all your sources of information cited?: Yes
Is participation in this research voluntary?: Yes
Does your research fit into a theory?: No
If you selected Yes to the previous question, explain here.:
Will participants be given any incentives to participate (e.g. extra credit, money, gift card, etc.)?: No Please list here if you answered Yes to the previous question:
Will participants: personal information be protected (confidential or anonymous)
State the purpose of your research. : The purpose of this study is to determine if the formal faculty development in high engagement strategies at a public, two-year, co-educational institution in Kansas is effective in increasing student engagement scores and enabling faculty to perceive an increase in efficacy in their teaching.
Who will be the participants and what method of recruitment will be employed? : Archival CCSSE data from the spring of 2013 and 2016 will be used and include: The first quantitative research sample of students will be selected based on the following

criterion: each student was enrolled in at least one course taught by a faculty member who participated in formal faculty development in high engagement strategies, prior to the faculty participating. The second quantitative research sample of students was selected based on the following criterion: each student was enrolled in at least one course taught by a faculty member who participated in formal faculty development in high engagement strategies, after the faculty member participated.

Archival data of faculty blogs and discussion posts will be used and include: The qualitative research sample will include 16 faculty members who participated in the 30-hour faculty development in high engagement strategies followed by the academic yearlong practicum throughout the 2015-2016 academic year.

How will data be collected and maintained? Who will have access to the data? Who (if anyone) will have access to data linking individual names to personal responses?   What will happen to the data after the research is completed?: All data obtained by the researcher will bestored on a password-protected computer.

List any risks to your participants (, e.g., emotional distress, invasion of privacy, pain, etc.) and state what you will do to safeguard your participants.   Also specifically state if population is vulnerable.: There will be no risks to the participants as archived data will be used.

Will there be any costs to your research participants? : There will be no costs to the participants.

Will participants be compensated in any way (e.g. gift cards, money, raffle, course credit, etc.) for their participation? (If course credit is there another way to earn the credit?): The participants will not be compensated in any way.

What are the likely benefits of this research to the participants and/or the public?: The results of this study are significant to administrators in higher education who are seeking effective and cost efficient methods of delivery for faculty training in high engagement strategies. The faculty training should contribute to achieving an increase in student's engagement, while increasing faculty's perceptions that their teaching was effective. The results will contribute to the emerging demand for research to ascertain effective and cost efficient methods of faculty training in high engagement strategies that result in a measured increase in student engagement

How will the findings of the study be disseminated (e.g. presentation, publication, etc.)? : Through the publication of the dissertation.

Upload your zip file here.: TiffaniIRB_signed_PegTerryTiffani_10.12.17_Final.pdf

Appendix E: IRB Approval from College A

██████████
██████
██████

██████████████ **IRB Response Form**

This form signifies that ███████████████████ IRB has reviewed the
research proposal submitted for approval on 10/16/2017 by Tiffani Price for Formal
Faculty Development in High Engagement Strategies Impact on Student Engagement
and Faculty Efficacy in a Two-year PostSecondary Environment.

With regard to the research proposal application, the ██████████████
██████ IRB has decided to:

      [X] approve the proposed research.
      [ ] approve the proposed research contingent on changes outline in Notes
      section below.
      [ ] request that you revise and resubmit your research proposal
      application (see notes). [ ] deny the request to conduct this
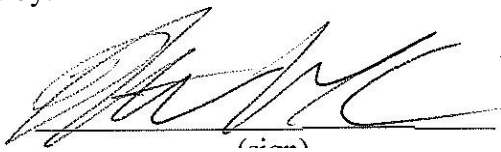   research (see notes).

This decision was finalized on 10-25-2017.

NOTES:

This looks great! We are all interested in seeing how the results come out.

Signed by: Nathan Swink, Ph.D

_____ _____   10-25-17
            (sign)   (date)
           (type)   (sign)

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