Author: **Schield, Pamela**

Title: ***Effects of Promising Practices on Graduation Rates of Public Two-Year Colleges***

The accompanying research report is submitted to the **University of Wisconsin-Stout**, **Graduate School** in partial completion of the requirements for the

Graduate Degree/Major: EdD Career & Technical Education

Research Advisor: Urs Haltinner, PhD

Submission Year/Term: Fall 2017

Number of Pages: 113

Style Manual Used: American Psychological Association, 6th edition

☒ **I have adhered to the Graduate School Research Guide and have proofread my work.**

☒ **I understand that this research report must be officially approved by the Graduate School. Additionally, by signing and submitting this form, I (the author(s) or copyright owner) grant the University of Wisconsin-Stout the non-exclusive right to reproduce, translate, and/or distribute this submission (including abstract) worldwide in print and electronic format and in any medium, including but not limited to audio or video. If my research includes proprietary information, an agreement has been made between myself, the company, and the University to submit a thesis that meets course-specific learning outcomes and CAN be published.**

☒ **I attest that the research report is my original work (that any copyrightable materials have been used with the permission of the original authors), and as such, it is automatically protected by the laws, rules, and regulations of the U.S. Copyright Office.**

☒ **My research advisor has approved the content and quality of this paper.**

STUDENT:

NAME: Pamela J. Schield **DATE: 11/15/2017**

ADVISOR: (Committee Chair if MS Plan A or EdS Thesis or Field Project/Problem):

NAME: Urs Haltinner, PhD **DATE: 11/15/2017**

This section for MS Plan A Thesis or EdS Thesis/Field Project papers only

Committee members (other than your advisor who is listed in the section above)

1. **CMTE MEMBER'S NAME:** Carol Mooney, EdD **DATE: 11/15/2017**
2. **CMTE MEMBER'S NAME:** Bryan Albrecht, PhD **DATE: 11/15/2017**
3. **CMTE MEMBER'S NAME:** **DATE:**

This section to be completed by the Graduate School

This final research report has been approved by the Graduate School.

Director, Office of Graduate Studies: **DATE:**

Schield, Pamela. ***Effects of Promising Practices on Graduation Rates of Public Two-Year Colleges***

Abstract

Current graduation rates indicate a lack of persistence at public two-year community and technical colleges. This study identifies promising practices found to be effective in the way they help improve graduation rates at public two-year colleges in the United States. The research outcomes recommend effective strategies of practice targeting increased student persistence. A National longitudinal dataset, the Integrated Postsecondary Education Data System (IPEDS), was queried for graduation rates that increased significantly between 2009 and 2014. The colleges demonstrating significant increases in graduation rates were surveyed, and interviews were conducted with those self-selecting to participate by providing a context to the student success experience on their campuses. Graduation rates of all 910 public two-year colleges consistently demonstrated a negatively skewed 21 percent mean graduation rate in 150 percent of completion time associated with first-time, full-time students. The research determined that coaching and advising, in addition to supplemental instruction and tutoring intervention, had the largest impact of the programs, processes, and practices identified by colleges surveyed and having significant graduation rate increases between 2009 and 2014. There were enduring themes that emerged from the iterative process of thematic analysis employed in the qualitative aspect of this mixed methods study.

Acknowledgements

Many individuals made important contributions to this dissertation. At the University of Wisconsin – Stout I want to thank my doctoral committee, Dr. Urs Haltinner (Chair), whose energy and drive helped to propel the project forward; Dr. Carol Mooney who has dedicated her professional life to the advancement of the education of Career and Technical Education (CTE) leaders, and Dr. Bryan Albrecht, president of Gateway Technical College, a collaborator, mentor and esteemed colleague, all assisted with analysis at various stages and provided essential critical review; Dr. Renee Chandler of the Graduate School; and Vicki Weber for editing the final report.

I thankfully acknowledge the efforts of my family, my husband and best friend, Mark Schield, and our children, all have provided thoughtful encouragement and dealt valiantly with the loss of my presence during this project. Thank you for having faith in me. This volume is dedicated to my children, Michelle, Nate, Leah, and Aaron, with the hope that their educational experiences, whatever and wherever they may be, will be personally fulfilling and socially rewarding.

Table of Contents

List of Figures

Chapter I: Introduction

Access to college has expanded in recent decades and the majority of high school graduates continue to college. The likelihood of their graduation from any college has been shown to be less than 50 percent. Over half of all U.S. students who began college were not persisting to graduation. The most recent graduation rate for first-time, full-time students earning an associate's degree at public two-year community and technical colleges was 20 percent for the cohort entry year of 2011 (National Center for Education Statistics [NCES], 2016). Figure 1 depicts the National Center for Educational Statistics (NCES) graduation rates within 150 percent of normal time, for first-time, full-time degree/certificate-seeking students at two-year postsecondary institutions over the eleven-year period 2000 to 2011.

Table 326.20. **Graduation rate from first institution attended within 150 percent of normal time for first-time, full-time degree/certificate-seeking students at 2-year postsecondary institutions, by race/ethnicity, sex, and control of institution: Selected cohort entry years, 2000 through 2011**

Sex, control of institution, and cohort entry year	Percent graduating with a certificate or associate's degree within 150 percent of normal time									
					Asian/Pacific Islander					
	Total	White	Black	Hispanic	Total	Asian	Pacific Islander	American Indian/Alaska Native	Two or more races	Non-resident alien
1	2	3	4	5	6	7	8	9	10	11
Males and females										
All 2-year institutions										
2000 starting cohort	30.5	31.5	26.1	30.1	33.3	—	—	29.3	—	25.5
2002 starting cohort	29.3	30.4	24.2	30.7	31.4	—	—	26.3	—	26.7
2003 starting cohort	29.1	29.9	24.2	30.2	31.7	—	—	25.9	—	27.2
2004 starting cohort	27.8	29.0	22.9	26.3	30.2	—	—	26.7	—	32.9
2005 starting cohort	27.5	28.5	22.6	25.7	31.5	—	—	24.9	—	32.2
2006 starting cohort	29.2	29.3	24.4	30.7	33.9	—	—	24.4	—	30.1
2007 starting cohort	29.8	29.4	25.4	33.3	33.1	—	—	25.5	—	30.9
2008 starting cohort	31.2	30.1	27.6	35.1	34.3	35.2	24.1	25.7	33.3	33.7
2009 starting cohort	30.9	30.1	26.4	36.3	35.1	36.0	25.0	25.7	30.5	34.6
2010 starting cohort	29.4	29.4	23.7	33.8	35.4	35.2	37.9	24.0	26.0	36.2
2011 starting cohort	27.9	29.1	20.2	29.9	33.6	33.7	32.1	22.5	24.5	34.3
Public institutions										
2000 starting cohort	23.6	25.7	17.8	16.8	25.5	—	—	19.6	—	23.2
2002 starting cohort	21.9	24.5	13.2	16.7	23.8	—	—	18.8	—	25.5
2003 starting cohort	21.5	24.1	12.7	16.3	24.8	—	—	17.9	—	25.8
2004 starting cohort	20.3	22.9	11.5	15.0	24.2	—	—	17.8	—	30.5
2005 starting cohort	20.6	22.9	12.1	15.6	25.8	—	—	18.2	—	29.9
2006 starting cohort	20.4	23.1	12.0	15.5	25.4	—	—	16.9	—	25.0
2007 starting cohort	20.3	22.9	11.8	15.9	25.3	—	—	17.4	—	25.5
2008 starting cohort	20.2	22.8	11.8	15.8	26.2	27.2	15.2	15.4	17.0	30.5
2009 starting cohort	19.8	22.5	11.3	15.9	26.1	27.3	11.9	15.9	18.5	32.6
2010 starting cohort	19.5	22.4	10.8	16.2	26.7	27.5	15.6	15.0	17.4	32.6
2011 starting cohort	20.0	23.4	9.8	17.5	27.2	28.1	14.0	14.4	17.6	31.0

Figure 1. National Center for Education Statistics, graduation rates. (NCES, 2016)

Of note is the 2011 starting cohort at public two-year colleges receiving a degree or certificate within 150 percent of the normal time was 20 percent. Outcomes for black and

Hispanic students are even more dire with certificate and degree attainment of 9.8 and 17.5 respectively according to the 2016 report. The trend across cohort years indicated by the NCES report shows a graduation rate improvement for race/ethnicities other than black which serves to highlight the necessity to attend to the needs of these students. Have public two-year colleges been able to discover why so many students are leaving without the education and skills they were seeking to acquire?

Students completing postsecondary degrees provide for a crucial aspect of the mission and goals of community and technical colleges and are an essential component of any funding formula that is performance-based. More than $67 billion was spent for the approximately 7,218, 000 students of public two-year colleges in the 2013-2014 academic year (NCES, 2016). There were initiatives aimed at improving graduation rates that have shown promising results. By targeting increased student success through innovative processes, completion rates at public two-year colleges can be improved. The status quo should be a concern for the constituents that support public two-year colleges because a $67 billion a year investment in education warrants a positive return. It is the duty of the colleges to be accountable to the communities where they exist.

According to the Center for Community College Student Engagement (2012), the graduation rate of full-time students for six years shows that 42.9 percent of two-year college students completed their program at their first institutions, while another 11.4 percent transferred and graduated from different four-year institutions. The Figure of Six Year College Outcomes (Appendix A) highlights the relationship between the graduation rates of part-time students and full-time enrolled students, 16.5 percent and 42.9 percent, respectively. The higher completion rates reflect the extended duration of 300 percent of the normal two-year degree completion time.

Background Information

A good education is no longer just a pathway to opportunity – it is a prerequisite. Scholarly research has stated that 65 percent of the fastest-growing occupations require more than a high school diploma (Barton, 2008; Carnevale, Smith, & Strohl, 2013; Dohm & Shniper, 2007; Gray & Herr, 2006). The issue of increasing student graduation rates of public two-year community and technical colleges is the focus of this study.

The goal of the American Graduation Initiative (AGI) is to make America the world's leader in the percentage of its citizens who have a college education by 2020. The initiative provides new federal support for community and technical colleges (Center for Community College Student Engagement [CCCSE], 2012). This goal places attainment of baccalaureate and sub-baccalaureate degrees at 60 percent, an ambitious goal (Bettinger & Baker, 2011; Kelly & Schneider, 2012). A sense of urgency has taken hold to accomplish this work because the contributions of college graduates are essential to sustaining state and national economies, as well as maintaining strong communities with engaged citizens.

Countries with high graduation rates at the postsecondary level are also the ones most likely to be developing or maintaining a highly skilled labor force (Organization for Economic Cooperation and Development [OECD], 2014). Since 1961 the Organization for Economic Cooperation and Development (OECD), a forum of 35 of the world's democracies, has disseminated statistical analysis, promoted economic growth, prosperity, and sustainable development.

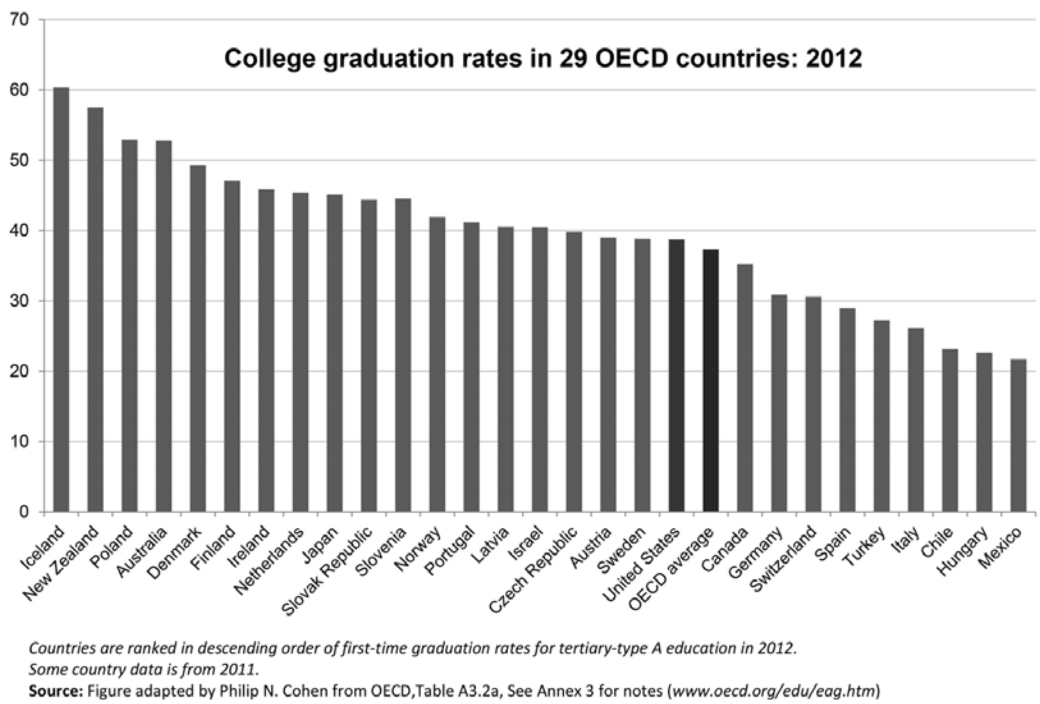


Figure 2. OECD college graduation rates by country.

Recognizing the impact that education has on participation in the labor market, occupational mobility and quality of life, policymakers, and educators are emphasizing the importance of improving postsecondary graduation rates. In 2016, the United States was ranked number 19 among the OECD nations for first-time graduates from postsecondary education with 46.9 percent (Figure 2).

It is the aim of this research to discover the practices that are working to improve student success at public two-year colleges and which colleges have increased graduation rates. Within the context of continuous improvement, it is integral to understand the programs, processes, and practices that contribute to student experiences. Advancing the knowledge base is necessary to support and expand programs designed for increasing access to postsecondary education systems.

Statement of the Problem

Current graduation rates indicate a lack of student persistence at public two-year colleges. Student persistence through to degree attainment is critical to a nation that is aiming to compete in a rapidly evolving global economy. Within this context, highly developed nations face increased competition from lesser developed nations (Porter, 2011). This is consequential given the rapid cycling of knowledge and skills within an era of exponential change. The circumstances of graduation rates of 20 percent at public two-year colleges are further confounded by the social, technological, environmental, and political shifts faced by globally interconnected economies (Brynjolfsson & McAfee, 2014; Gordon, 2013). These changes are further exacerbated by the rate of change in information and communications and advanced manufacturing technologies.

Keeping pace and advancing the human resources of our nation by preparing a skilled workforce with capabilities is critical. No longer can the United States depend on existing skills development programs to prepare workers for occupations, it must evolve its human resource capabilities to transition to iterations of training across the life and work span of workers. Community and technical colleges, as the local and regional economic development centers, are called upon to deliver graduates with in-demand credentials.

Research informing college leaders and administration on the best practices for guiding student success not only serves those directly involved in education but the interests of others in the communities served by local colleges. The economic value of the skills that graduates bring to the workplace and communities is not the only advantage of postsecondary completion. There is an underlying intrinsic impact that the completion of an academic endeavor brings a sense of personal accomplishment. This study seeks to identify promising practices found to be effective in the way they help increase graduation rates at public two-year colleges.

Purpose of the Study

Increased scrutiny on institutional outcomes has led to the modification of academic programs and practices in an effort to affect student persistence to graduation. This study seeks to identify practices contributing to positive graduation rates at the highest-performing public two-year community and technical colleges. The purpose of this study is to identify high-impact programs, processes, and practices which positively affect degree completion in public two-year colleges. The inquiry begins with an analysis of accessing the Integrated Postsecondary Education Data System (IPEDS) in an effort to identify two-year colleges that illustrate retention advancement called for by researchers.

Research Questions

The following research questions guide this research.

1. Which public two-year colleges have demonstrated significant improvement in graduation rates between two points in time (2009 – 2014)?
2. What kinds of retention programs, processes, and practices are being utilized by the sample institutions from Research Question 1?
3. How do retention program leaders describe their programs, processes, and practices that they perceive to affect student persistence significantly through to graduation?

Assumptions of the Study

The assumptions declared below are based on the researcher's experiences, relationship to the research problem and the fidelity of the work. The researcher worked as an instructor in postsecondary developmental and corrections education and coordinated literacy initiatives including one-to-one tutoring and ELL programs. Additionally, the researcher has experience as a business owner with a grasp of the challenges and intricacies of setting and striving for organizational workforce development. The following are the beliefs that the researcher declares. The attainment of institutional benchmarks along with meeting mission-stated objectives coincide with serving the needs of learners and community stakeholders. The likelihood of success increases when institutions set their own goals and assess how well they meet them. At the heart of the quest to be better, there is a human need to be honored, admired, and respected.

This research was conducted with the acknowledgment of the following assumptions; that an increase in graduation rates at public two-year colleges benefits students through enhanced employment opportunities, and degree attainment is perceived as both a social and economic public benefit.

Definition of Terms

In support of understanding the nomenclature of completion in postsecondary institutions, the following Definition of Terms is given to establish a common framework of meaning.

Cohort. A specific group of students established for tracking purposes, for this study a cohort is assigned to the group of students entering postsecondary education their first time for a standard academic term, e.g., the 2010 cohort entered postsecondary education the academic year of 2010-2011 (Kena, Musu-Gillette, Robinson, Wang, Rathbun, Zhang, Wilkinson-Flicker, Barmer, & Dunlop Velez, 2015).

Completion rate. Refers to students receiving associate's degrees or certificates from their first institutions of attendance only (Kena et al., 2015).

Degree-granting institutions. These colleges grant degrees at the associate's or higher level and participate in Title IV federal financial aid programs.

First-time full-time degree/certificate-seeking students. Indicates the enrollment in college as of October each year for individuals 16 to 24 who completed high school during the preceding 12 months (NCES, 2016; Ross, Kena, Rathbun, KewalRamani, Zhang, Kristapovich, & Manning, 2012; Snyder & Dillow, 2013).

Graduation rate. The Department of Education's official definition for IPEDS data applies to students who enrolled in the fall as a first-time degree-seeking freshman, attended full-time and complete within 150 percent of normal program completion time at the institution where they first enrolled (NCES, 2016).

Persistence. Continued enrollment, or degree completion, in the fall semesters of a students' first and second year (Horn, Kojaku, & Carroll, 2001).

Reporting period. The period covered by academic programs during a time span between September 1, of a year to August 31, of the next year.

Limitations of the Study

Background research reveals numerous contributions toward improving graduation rates at two-year colleges. Accordingly, this study does not intend to establish a definitive methodology applicable for all instances of lower than desired graduation rates. Rather, it seeks to offer research findings that are replicable and thorough in its effort of finding and illuminate promising practices.

Findings identified during this study regarding the effect of practices on graduation rates are limited to data available from IPEDS; it includes information on colleges that receive federal funding and collect and submit data. The definition of graduation rate from the U.S. Department of Education is the proportion of first-time degree-seeking students that attended full-time and complete within 150 percent of normal program completion time at the institution where they first enrolled compared to those in the cohort. Much of the time for community and technical college students this is not the case; many students attend part-time or intend to transfer to another institution to complete a degree and others began their postsecondary education at other institutions.

Chapter II: Literature Review

This study aims to determine student success strategies that have a high impact on the graduation rates at public two-year community and technical colleges while presenting replicable, valid, and thorough research. The problem of low degree completion rates at public two-year colleges that this study seeks to inform is a fundamental issue for postsecondary education in the United States.

A greater understanding is needed of the driving and opposing forces that impact educational attainment, skills training, and worker development and will be presented in this chapter. A brief history of the technical and community colleges follows, and a glimpse of their mission and their purpose of engaging work-force development is included in this literature review.

One implication of increasing access to postsecondary education has been the need to address low graduation rates that have required the adoption of promising practices, also known as high-impact practices (Burns, 2010; CCCSE, 2012; Kilgo, Sheets, & Pascarella, 2015). The challenge has become determining which practices are indeed the best (Crisp, 2016). For researchers, there is an opportunity to gather evidence to verify the claim of impact and to explore the experience of individuals and institutions. By pursuing the identification of valuable practices and evaluating the effects of improvement initiatives, a greater understanding of the problem and possible solutions can be reached. This will be accomplished through the review of literature and the examination of college completion statistics,

Theoretical Construct

Many learners from varied backgrounds characterize sub-baccalaureate education and the challenges they face are key to the mechanisms of promising practices being broadly integrated throughout college. Two-year public colleges make an education accessible within their local communities to many non-traditional students pursuing certificates and associate degrees, in addition to traditional first-time, full-time students. Solutions aiming to provide increased persistence to completion wisely approach an institution-wide approach (Kelly & Schneider, 2012; Kuh, Kinzie, Schuh, & Whitt, 2011). For this reason, there is a need to gather the powerful heuristic perspectives of researchers and administrators that are seeking to build upon promising practices and programs in technical and community colleges. Continued exploration of transformative educational practices that are in place and endeavoring toward these objectives include organizations such as the Community College Research Center (CCRC), Achieving the Dream, the Center for Community College Student Engagement (CCCSE), and the National Resource Center for The First-Year Experience and Students in Transition (Crisp & Hatch, 2016).

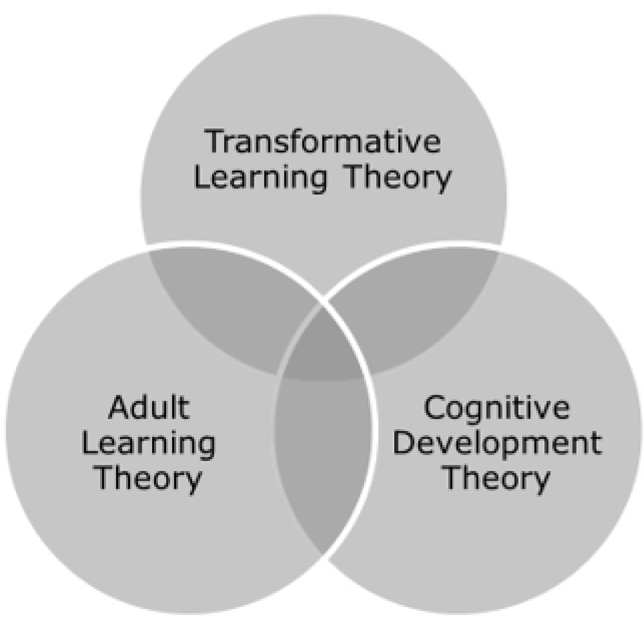


Figure 3. Graphic depiction of the theoretical construct.

Behind the research are theories that are the basis that drive the notion of helping students attain their credentials and the need to evolve sub-baccalaureate credential attainment. Figure 3 depicts the overview of the theoretical construct used, recognizing the overlap in the Transformative Learning Theory, Adult Learning Theory, and Cognitive Development Theory. A combination of Transformational Learning Theory, Adult Learning Theory, and Cognitive Development are descended from Progressivism Theory which informs this research. Having a learner focus is very dependent on students. This is reflective of the pragmatism of Dewey (1916) because it stresses meeting the needs of individual learners. Transformative theory says motivation and transformative focus have meaning and give value to learning. Mezirow (1991) supports that learners tend to use their experiences in accumulating new knowledge and skills in support of transformative learning theory. Participating in educational programs develops and prepares citizens to work and serve society bringing about the need to make sense out of one's life experiences and is an incentive for engaging in a learning activity, this echoes the critical theory of Freire (1970).

The seminal figure of Progressivism is John Dewey (1938):

> What avail is it to win prescribed amounts of information about geography and history, to win ability to read and write, if in the process the individual loses his own soul, loses his appreciation of things worth while, of the values to which these things are relative; if he loses desire to apply what he has learned and, above all, loses the ability to extract meaning from his future experiences as they occur? (p. 49)

The goal of Progressivism is to change schooling so that it is no longer something that is done to students. Students lose interest in true learning when schooling is viewed as a transmission of knowledge and students are exempt from any participation in the democratic process in determining the form of their education. When students participate in the process of determining what and how they will learn, they are more motivated to do so.

Consistent with social-constructivist learning perspectives, learning should be authentic and connected to the world outside of school not only to make learning more interesting and motivating to students but also to develop the ability to use knowledge in real-world settings (Shepard, 2000). In addition to the development of cognitive abilities, classroom expectations and social norms should foster the development of necessary dispositions, such as learners' willingness to persist in trying to solve increasingly difficult problems.

Understanding the adult learning theory articulated by Kegan (1982) of Constructive-Developmental Theory (CDT) emphasizes the fundamentals of adult development that underlie the elements of student success (Kegan & Lahey, 2001). Adults construct knowledge and the meaning of education in ways consistent with their system of making meaning. Indeed, learning is a truly individual endeavor. Through the lens of the learner, new knowledge is examined typically by asking “What is in it for me?”, “What do I think I should know?”, “What do I want and need to know and learn?”, and “What is important for me to know to keep learning and growing?”; these orientations show a progression from a more passive focus to accumulating information toward a greater capacity for self-agency (Kegan & Lahey, 2001).

Ensuring the cognitive growth of those seeking a postsecondary credential is primary to the mission and goals of public two-year colleges. These sub-baccalaureate colleges are applying the Transformational Learning Theory that recognizes the changes that occur in individual and organizational development set forth by Jack Mezirow (1991). Within organizations faced with understanding and embracing the relationship between outcomes metrics, such as graduation rate, and performance funding, revising operations, and facilitating changes to succeed, there is a process of transformative institutional learning.

Of the many factors that contribute to the stagnating rates of college completion that may be one of most salient and least recognized issues might be the required commitment of time and financial resources, which may be considerable (Eggen & Kauchak, 2015). There is a demonstrated need for providing access to a broad range of affordable career education opportunities at the sub-baccalaureate level which can simultaneously provide training for access to high demand professions at the same time limiting financial risk.

Background of America's System of Education

Our nation's early education mainly occurred through family life, culture, and churches. Its aim was focused on saving the souls through obedience and getting children to be able to read, write and cipher for practical purposes (McNergney & Herbert, 2001). The belief that people learn as much from life, as they do from school, does not insult formal schooling but gives it context in what was a commonly held belief. In America's history, the earliest primary education for children was offered through community sponsored schools which often were organized by religious organizations. Public primary schools were established beginning in 1635. The education of students beyond the eighth grade and the building of secondary schools were not commonplace until the mid-1800's because their focus was seen as preparing students for university studies (McNergney & Herbert, 2001). In this way, the U.S. followed in its European-rooted tradition, a liberal education was designed for aristocratic gentlemen who could afford to attend selective universities (O'Banion, 2016).

As early as the 1820's, apprenticeship and trade school programs began skills training to meet trade and industrial workforce needs. Lyceums or manual trade schools were the first such programs to offer formal trade and industrial education (Hall & Marsh, 2003). Public education systems soon began including industrial arts, manual arts, agriculture, and business in their curricular offerings. It was hoped that establishing vocational training as an alternative for those leaving schools at 14 years of age would extend general education and increase continued school attendance (Wonacott, 2003).

As the nation moved from its agrarian economy into the manufacturing era, a significant evolution of the nature of work began to take place (Gordon, 2014). Labor specialization evolved along with the technologies that became available to increase manufacturing efficiency, and this spurred an advance in the development of education and training systems (Barlow, 1976).

Early career and technical education took place in manual training or vocational schools, usually established within larger communities and viewed as optional formal learning leading to immediate employment (Gordon, 2014; Scott & Sarkees-Wircenski, 2008). At the turn of the 20th century, typically 10 percent of high school graduates continued into any postsecondary education (O'Banion, 2016).

The Morrill Act of 1862 established so-called "land grant" colleges around the United States primarily dedicated to agricultural education. Over 150 years ago, one of the first land grant colleges was the University of Wisconsin-Madison. The U.S. Congress began funding the industrial arts with the Second Morrill Act of 1890 and later with the Smith-Lever Act of 1914 (Gordon, 2014). Then in 1917, Congress passed the Smith-Hughes Act requiring states to create state vocational boards. It also provided federal financial aid for public secondary vocational education.

The growing need of the United States for skilled workers after 1910 drove widespread growth in vocational education. Funding was supervised by independent districts that depended on taxpayer support as a mechanism to train the technicians needed by the booming industrial sector (Goldin & Katz, 2008). The foundation of the vocational educational system in the U.S. was based on European models (Scott & Sarkees-Wircenski, 2008). Authors Goldin and Katz (2008) detailed in the *History of Education in the United States* the dramatic contrast to the centralized systems in Europe, where national agencies made the major decisions, and the American school districts locally instituted policies and curricula.

In this way, public two-year colleges resemble secondary education in the U.S. where the primary funding and control is maintained at a district level. A clear priority of technical colleges is their mission, connected to meeting the needs of students and communities for future economic opportunity, vitality, and workforce development. For community colleges, their mission is similar and most frequently tied to providing near-home access to postsecondary education for sub-baccalaureate credentials and an entry point for transfer to four-year programs (Cohen, Brawer, & Kisker, 2014). Obtaining a post-high school credential is foundational to the very nature of labor specialization and the career planning aspect of educational systems which were developed to meet business and industry needs (Carnevale & Desrochers, 2002).

Available research is clear on what happens to U.S. students post-high school; 30 percent will enter the workforce directly, another 20 percent will complete a two-year degree, and 20 percent will receive a degree from a four-year college or university (NCES, 2016). Thus, there remains 30 percent of students who entered postsecondary education but do not complete within 150 percent of normal time. High school seniors are compelled by well-meaning parents and others to begin on a four-year college journey, based on the notion of gaining a better life (Gray

& Herr, 2006). This would naturally lean into the idea of wanting better lives for our children which includes getting them away from tending the machines, digging ditches, working in the manufacturing plant to envisioning, leading, and managing those that are laboring in the trenches.

Fifty percent of all high school students are in the academic middle, and according to authors Gray and Herr (2006), they face pressure to go to college. The daunting task of meeting the "college or nothing" expectation leads the majority of high school graduates to begin postsecondary education. The National Center for Education Statistics (NCES, 2016) puts the number of students entering postsecondary education at 70 percent. The decisions made by high school graduates toward their pursuits have many influencers and have evolved in recent decades. The influencers include scholarship and financial aid availability, the student's motivation and ability, and campus culture and aesthetic (Kelly and Schneider, 2012). Carnevale, et al. (2013) discuss the need for higher education in *Recovery: Job Growth and Education Requirements Through 2020*,. There is an increased need for a technologically prepared workforce that has led communities to consider what the economic, social, and political factors which play into the rapidly developing need for higher education. Post high school education and training are essential today as jobs have transitioned and have required educational systems to develop to meet the needs of business and industry.

Some of the sentiments surrounding career and technical education have been "that it is fine for those non-academic kids, but not mine" and according to Parnell this academic snobbery is education's most serious failing (Parnell, 1985). In the words of Sidney Marland, Jr. in Parnell's *The Neglected Majority*, this serious failing of education "is self-induced, voluntary fragmentation, the strong tendency of several parts to separate from one another, to divide the entire enterprise against itself" (Parnell, 1985, p. 53).

In 1985, Parnell laid out a plan linking programs in secondary and postsecondary education. As a result of Parnell's work, legislation funding 2+2 programs was enacted, called the Tech Prep Education Act, which effectively bridges the last two years of high school through the first two years of postsecondary education (Bragg, 2001).

The idea that 4-year college is for everyone is pervasive in families and high schools as noted by Gray and Herr in *Other Ways to Win* (2006). The expectations on youth to advance their education comes even in the form of legislation which mandates testing aimed at students being prepared for postsecondary education at the university level (Gray & Herr, 2006). However, not all students are academically equal, especially at the exact point in time, in fact studies (Carnevale & Desrochers, 2002; Herrnstein & Murray, 1994) have shown that the majority fall into a section of the bell-curve termed the academic middle. In response, educational programs particularly those at two-year community and technical colleges have developed programs designed to ladder or provide graduated segmented credentials. These credentials lead to associate degrees and often baccalaureate degrees which build upon one another (Crisp, 2016). This exemplifies how some public two-year colleges have grasped the cognitive differential of its students and taken steps to leverage this realization by utilizing programs, processes, and practices that have lead to significantly higher persistence and graduation rates.

Postsecondary and Higher Education in the U.S.

American higher education in the modern era exists for societal good, public higher education is intended to serve, a purpose for which it was created and has been sustained throughout our Nation's history. The definition, future role, and purpose of American higher education is addressed in *American Higher Education* (Lucas, 2006) over time universities have transformed from civic institutions into some of the world's most powerful research engines and changed their objectives and operations and research architypes. Historians attribute the transformation to various forces, including the professionalization and departmentalization of the academic disciplines into the university, the drive in global competition, and other factors economic and political that have caused universities to experience their most expansive growth and to deemphasize their civic mission (Lucas, 2006).

Higher education leaders helping to reshape the societal purpose of public higher education must effectively manage determinative variables, while simultaneously building a sustainable future for their higher education institutions and sustaining the fundamental tenets of public higher education's public service role within American society (Dunek, 2015). In the study *the Future of American Public Higher Education*, Dunek (2015) identified that the social contract is dynamically shifting to focus upon workforce preparation, economic development, and accountability. The Dunek study concludes that it is important for increasing numbers of higher education scholars to engage in proactive, purposeful, and collaborative research and publication regarding the future of the social contract between public higher education and American society.

All higher education, sub-baccalaureate, baccalaureate, vocational, including graduate and professional school, is career-oriented (Cohen, et al., 2014). Learners attending college are pursuing a postsecondary credential or adding to their repertoire of skills to apply their knowledge toward the future realization of their aspirations. Community and technical college enrollments are comprised largely by part-time students, which far outnumber full-time students, sometimes by as much as three to one (Cohen, et al., 2014, p. 50).

The Technical and the Community College

As during the American Golden Age of manufacturing, the U.S. is now responding to a changing economic and social landscape. Driven by the need to make education more accessible to nontraditional students whose numbers rapidly increased following World War I and II, parallel systems emerged for general education and vocational education as the numbers of students attending two-year colleges swelled (O'Banion, 2016). Both avenues of postsecondary/higher education represent strategies to affect transitioning veterans back into the civilian labor force that required an education and training system that was responsive to the accelerating demand for a trained workforce; two-year colleges were agile and able to respond adroitly to industry's demands (Cohen, et al., 2014; Frye, 1992). Through the continued exploration of transformative educational practices, two key missions have emerged in the U.S. community and technical college systems – degrees leading to immediate job placement and articulated credit for baccalaureate completion.

In 1963, Congress passed comprehensive vocational education legislation, called the Vocational Education Act of 1963, in which, some federal monies were designated for specific purposes. These were called "set asides" to fund 1) training for persons who had completed or left high school, or to construct area vocational school facilities, or both, and 2) experimental programs for youth vocational and technical educational (Hayward & Benson, 1993). Expansion of the 1963 Act occurred with the 1968 Amendments that included provisions for cooperative education, work study, and exemplary apprentice programs.

Pivotal to the expansion of these programs was the Carl D. Perkins Vocational Education Act, first authorized by the federal government in 1984 and which was reauthorized in 1990 and 1998. In 2006, the new Carl D. Perkins Career and Technical Education Improvement Act instituted the use of the term "career and technical education" instead of "vocational education”; and it linked academic and technical content across secondary and postsecondary education while strengthening local accountability.

Community colleges were founded in 1901, Joliet Junior College in Illinois is the oldest existing public two-year college. The term “junior college” was used by William Rainey Harper, who authored *The Trend in Higher Education* in 1905, to describe the college that academically paralleled the first two years of a four-year college or university and accommodated students who desired to remain near their community yet pursue a college education. The terminology which evolved in the 1960’s has given way to the term “Community College” used today that more closely mirrors their mission in postsecondary education (Cohen, et al., 2014). Across the United States 1,462 community colleges are offering sub-baccalaureate programs for students planning to transfer to a four-year university, along with programs of occupational education leading directly to employment, student support services, workforce development services, adult literacy programs, and adult developmental education (NCES, 2016).

In the century since their inception two-year colleges have undergone several transformations, principally in the areas of technological advancements, economic swings, and demographic shifts. The 1900’s in the United States saw not only war, but tremendous growth in healthcare, financial services, transportation, and manufacturing automation, which impacted communities, colleges, students, and families, and the learning environments.

The twentieth-century generations include a dichotomy of models for educational attainment, the children of the Great Depression, veterans returning from WWII and the subsequent baby boomers, all were encouraged to pursue their dreams. America, known as the land of opportunity, provided vast educational options as learners began entering postsecondary education at unprecedented rates in the 1960's. Enrollments led to growth in degree attainment which has become the normed expectation (Gray & Herr, 2006). The result has been a large increase in post-high school education with public and private education and training growing their capacity to serve.

Contemporary Issues Affecting Career, Technical and Workforce Education

The challenges emerging in the information and technology era present a seismic change that necessitates pervasive innovation and invention. At this critical juncture, there is a pivotal time of global change that policymakers need to consider. The connection between education and work is at the crux of preparing individuals for their departure from academia and passage into a career. Transition into the world of work is the application phase of the learner's cognitive advancement. It is incumbent upon higher education to confer upon its graduates the tools to thrive in the world. As a result, the deepening understanding of the relationship between higher education attainment and the economy of the United States, particularly job growth and employment have led to the exploration of the dynamics within and among variables, interventions, and contexts.

An education and training system rooted in credential attainment aims to provide the workforce of the future. As accessibility has expanded so has the need for remediation, as in *The American Community College* states remediation is a major priority for community colleges (Cohen, et al., 2014). The steps needed for the United States to transform millions of underprepared learners into holders of high-quality postsecondary credentials begin with building an education and training system rooted in credential attainment. For many students, currently among the age group of 15 and 24, what is needed are the “wide-scale implementation of effective strategies to increase student success” (Matthews, 2012, p. 4). Also, needed are ways to engage underrepresented groups; these may be students who are older, or Hispanic, Native American, or African-American. Also, more needs to be done for those with lower incomes and first-generation students in order to close gaps in attainment.

The Nation's Shifting Demographic Profile

Projections of the period through 2025 borne out by data, show unprecedented numbers will reach retirement age, these baby boomers make up almost half (47%) of the workforce today (Miller, 1999). Several factors suggest that the projected demographic profile of the U.S. will become more highly diverse and that the shifting growth in postsecondary entry rates will remain steady due to the stable birthrate of the next several cohorts of 17-year-olds (Vincent-Lancrin, 2008). According to the OECD report, *Higher Education To 2030 – Volume 1: Demography*, the size of higher education systems based on demographic changes should, on the whole, have a relatively limited impact based on student enrollment trends, teaching staff numbers and costs in higher education (Vincent-Lancrin, 2008). To scale for the upcoming retirement boom efforts have been made to deliberately increase access to higher education so that it reaches the levels needed to grow the workforce (Vincent-Lancrin, 2008).

Particular attention is being focused on transferable work skills rather than job-specific, narrower job skills, including interpersonal skills (Kyllonen, 2013). Working in collaborative teams is being emphasized, problem-solving, and the need for higher levels of academic skills are now required in the more highly technological workplace and these changes are being built into programs to adjust for the changing workforce demographics (Rojewski & Hill, 2014).

Higher education is at the junction of economic recovery and job creation. The effects of automation on manufacturing have been and will continue to be dramatic. Advancements in manufacturing continue to be innovative because the challenge of sustainability affects all industries (Carnevale, et al., 2013). As a U.S. Department of Labor report has indicated 65% of the jobs that will exist in 25 years have not yet been created. Stated another way, the jobs that will be held by current primary school children do not currently exist (Herman, 1999). Technology will continue to extend into every workplace with automation optimizing the performance of jobs once performed by low-skill workers**.** Postsecondary education needs to operate in a way to build the knowledge and skills required to support the twenty-first-century global workplace this will require fundamental changes in approach.

Social and political tensions are relative to the vision and policies embraced to meet the future. Adding to the supply of workers in the labor market will add to the sustainability and facilitate fulfillment of mission mandates of community and technical colleges. By supporting the community through fostering economic growth through developing a qualified, available, and skilled workforce, and learners with the knowledge and skills necessary to explore, maintain, or advance in employment or higher education. In *Soft Skills for the Workplace* (Kyllonen, 2013) the importance of non-cognitive skills is highlighted from a large-scale study, which concludes employers seek professionalism/work ethic, communication skills, positive attitude, adaptability to change, and teamwork skills as the most important traits when hiring.

A further consideration for integrating and sustaining experiential learning and capstone experiences into higher education pathways will guide learners to increased success in their post-collegiate jobs. Today the array of college course offerings is often difficult to navigate, and students are mostly expected to plot their course themselves. As a result, the students entering community and technical colleges with less rigorous academic preparation and limited career and postsecondary planning experiences, need more guidance, coaching, and feedback (Horn, et al., 2001).

Research shows experiential activities can provide meaningful learning opportunities for students, can prepare them for success upon graduation, and can lead to higher levels of student persistence and retention (Berardi & Blundell, 2011; Kolb, 1984; Rowjewski, 2004). The transition from postsecondary education to work must be anticipated and orchestrated by technical and community college programs. Policymakers have taken notice and have implemented performance-funding measures that consider the effects of teaching and learning in programs, student retention, completion rates, and graduate employment. The benefits of work-based learning, mentoring, and coaching can positively influence these student success measures (Bettinger & Baker, 2011). This truth is borne out by Kolb's Learning Style Strategies that indicate the proven way to learn for many individuals is hands-on (Kolb, 1984).

A focus on improving student retention and improving graduation rates must have the aim of entry and advancement into the workforce this will require not only a focus on the transition to postsecondary education but the transition from school to the workforce (Kyllonen, 2013). Many higher education leaders are taking a close look at their programs and asking how they can utilize innovative methods to improve processes to achieve these essential results (Kolb, 1984).

Some programs prepare people better for the world of work than others (Höckel, 2012). A comparison of the progress of developing nations with more economically developed countries indicates that those competing effectively for economic resources are more often open to the "diffusion of technology and knowledge, market integration and environmental transformation" (Miller, 1999). The countries of India, Brazil, Mexico, and China have been nourishing long-running economic vitality and have developed economically while making significant improvements in social, educational and health status.

More developed countries are finding that the more they are open to engaging in international flows of goods, services, finance, and ideas. the more they are being rewarded by steady declines in transaction costs (Vincent-Lancrin, 2008). The expanded global marketplace has resulted in facilitating more efficient communication technologies, transportation systems, and market rules, which in turn have fueled gains in trade and international economic specialization. As Miller's (1999) millennial study points out in concrete terms, the results of embracing the expanded globalization are integrated and coherent policies that will continue to accelerate the emergence of new environmental sustainability, industrial globalization, and a new knowledge economy.

Sociological, Economic and Political Context

More than $67 billion was spent on tuition, fees, room and board at public two-year colleges in the 2013-2014 academic year, which coincides with a 20 percent graduation rate (NCES, 2016); this falls short of the goal set by the American Graduation Initiative (CCCSE, 2012). Further study should be directed toward revealing ways to improve graduation rates (Kilgo et al., 2015). The goal of this study is the discovery of beneficial information regarding promising practices derived and how effectively these practices have contributed to graduation rate gains. The background of the issue of graduation rates at of public two-year community and technical colleges will be considered and how colleges have sought to address the problem.

Completion rates of 20 percent are a significant concern for community and technical colleges in the United States. Another way to look at this truth is that for the majority of students' their college experience does not end with a degree in hand according to National Center for Education Statistics (NCES, 2016). The lack of a postsecondary credential undermines their lifetime earnings because, over the course of their wage-earning life, graduates with an associate's degree will earn an average of $1.6 million compared to an average of $1.2 million for high school graduates (Brock, 2010). The data indicate that wages are 25% more for an adult completing a 60-credit hour associate's degree will gain of $400,000 in earning power over individuals attaining only a high school diploma.

The United States is at risk of losing its competitive advantage of being the world's greatest industrial nation, where lesser developed countries are quickly gaining economic opportunities; making it increasingly difficult for highly developed nations to rest on the established status-quo of educational practices (Kanter, 2011). Understanding the significant contributions that public two-year colleges bring to the national need for labor development through economic, sociological, political, and technological perspectives is critical to identifying the issues, challenges, and concerns surrounding postsecondary student completion.

Perception and sub-baccalaureate education. The concept of *college for all*, as a mindset, proves to be a quagmire for the students in the academic middle, those who may not want to go to college or who may want to go but have found that they struggle to succeed. From a national policy perspective, the U.S. has embraced the belief that every generation needs to have more opportunities than their parents (Carnevale et al., 2013). As Gray and Herr (2006) concisely summarize in *Other Ways to Win; Creating Alternatives for High School Graduates* most teens aspire to the professional ranks, but only 21 percent of all jobs in the United States require a four-year degree or higher; in fact, only 12 percent require a four-year degree. Meanwhile, less than 2 percent of teens aspire to pre-professional technical careers, which are among the fastest-growing and largest sources of high skills employment in the economy (Gray & Herr, 2006).

The concept of college and the way it is perceived in the U.S. sets many students up to seek a college degree before they are ready. Simultaneously, there has been an exponential expansion of college degree attainment opportunities that are available through public and private (profit and non-profit) institutions. The emergence of highly-competitive programming aimed at the top 10 percent of high school students has many who fall into the second and third quartiles of achievement floundering for a landing place on the collegiate landscape.

The strategies necessary to increase postsecondary graduation rates at public two-year community and technical colleges have been studied by the Center for Community College Student Engagement (CCCSE), the Community College Research Center (CCRC), the American Association of Community Colleges (AACC) and by numerous distinguished researchers and scholars. Research has revealed numerous promising practices for improving graduation rates at two-year colleges. Implementation of successful educational practices depends on thoughtful evaluation, effective and specific design, along with quality of implementation (CCCSE, 2012). Colleges across the country are examining their practices, designing and overhauling programs targeting student success (Brock, 2012). These practices are implemented in a variety of ways that require collaboration across departments and throughout campuses (Bailey, Jaggars, & Jenkins, 2015; Kuh et al., 2011).

A practice that has proved to have a positive impact is standardized academic pathways combined with increased guidance to students, through these methods institutions have shortened the time to completion (Strother, Grunow, & Van Campen, 2013). In *A Matter of Degrees: Promising Practices for Community College Student Success* (CCCSE, 2012) the point is made that standardized academic pathways shorten the overall time a student spends completing a degree and thereby reduces the financial burden to complete a degree.

When remediation is prescribed, the new strategy is to involve students in learning communities. Rather than assigning students to remedial education and risk them dropping out of the classes, the learning communities program targets incoming first-year students, for instance, needing remedial English (Crisp, 2016; Juszkiewicz, 2016). Students were placed into groups of fifteen to twenty-five to take three of their first semester courses together: an English course; a regular college course such as introductory psychology or health; and a student success course.

First year success courses often taught by college counselors that cover effective study habits, time management, and other skills considered needed to succeed in college have proven to be valuable for integrating students into college life (Bailey et al., 2015; Brock, 2012; Kuh et al, 2011). Faculty who teach in the learning communities have been expected to coordinate assignments and meet periodically to review student progress. Student coaching (CCCSE, 2012), in this manner, cohort models, and learning communities are helping to increase overall student retention, which has reached a six-year high of 60 percent (NCES, 2016).

College completion statistics remain sub-par revealing that it is necessary to find ways that will prove valuable for integrating students into college life. In their comprehensive review of the research Pascarella and Terenzini (2005) found higher rates of postsecondary persistence and degree attainment are associated with student characteristics that are evident before college enrollment. These traits echo the research in *Higher Education: Gaps in Access and Persistence*

Study (Ross et al., 2012). The statistical analysis report links college success to 1) strong academic achievement in high school, 2) immediate entry into postsecondary education after high school, 3) full-time and continuous enrollment, 4) academic and social engagement with faculty and peers and 5) working part-time or less than 15 hours a week while enrolled (Ross et al., 2012).

Summary

There is no single practice or program to meet the challenge to increase the U.S. college graduation rate; community and technical colleges will need to design students' educational experiences to engage learners innovatively. A substantial amount of work remains for programs and practices to be incorporated at community and technical colleges to facilitate increased student success.

Chapter III: Method and Procedures

This research aims to identify promising practices found to be effective in the way they help improve graduation rates at public two-year colleges. The purpose of this study is to identify the high impact programs, processes, and practices utilized to positively affect degree completion in public two-year colleges. The inquiry begins with an analysis of the Integrated Postsecondary Education Data System (IPEDS) in an effort to identify two-year colleges that illustrate the retention advancement called for by researchers. The following research questions were addressed in this study:

1. Which two-year colleges have demonstrated significant improvement in graduation rates between two points in time (2009 – 2014)?
2. What kinds of retention initiatives, programs, processes, and practices are utilized?
3. How do retention program leaders describe their initiatives, programs, systems, processes and practices they perceive to affect student persistence through to graduation significantly?

To answer the first research question, the graduation rates at public two-year colleges were examined through the inspection of the Integrated Postsecondary Education Data System (IPEDS). The IPEDS database allows for replication of the quantitative research (Burns & Harrison, 1979). Additionally, IPEDS provides test-retest reliability; through this measure of consistency when accessing data repeatedly over time the same results will be achieved. The ex post facto data were examined to determine the differences between 2009 and 2014 graduation rates at public two-year colleges from data aggregated at the college level through the IPEDS.

To answer Research Question 2, the researcher surveyed a stratified sample of colleges that were revealed during the IPEDS interrogation, those with the highest increases of graduation rates for the purpose of identifying retention programs, processes, and practices.

To answer Research Question 3, semi-structured interviews delved into the educational practices of the participant institutions, which had potential to vary widely from campus to campus due to variable differences in facilitation and administration of their implementation and practices.

Figure 4. Graphic depiction of the research design.

The three-phase aspect of the study is depicted in Figure 4, all surround the need to discover aspects of promising practices. Phase 1 was a quantitative inquiry seeking to identify a sample, Phase 2 was a quantitative survey naming the programs, processes, and practices utilized by the sample colleges, and Phase 3 consisted of qualitative interviews that sought the detailed stories of how professionals perceived the high impact practices being employed.

Research Design

The basic design of the study was mixed methods, integrating elements of both quantitative and qualitative methodologies into the study (Campbell & Fiske, 1959; Creswell, 2014). The data collection and analysis in the mixed methods study exemplified what Creswell (2014) characterizes as the pragmatic paradigm, which provides an opportunity for "multiple methods, different worldviews, and different assumptions" (p. 12). The mixed method form maintains a focus on the 'what' and 'how' of the research problem" and allows for a more complete and full portrait as it is "viewed from multiple perspectives" a more developed representation that typifies the pragmatic paradigm (Lichtman, 2013).

The mixed methods design flows sequentially in this study Phase 1 and Phase 2 where the collecting and analyzing of data occurs according to a quantitative methodology guided by precise terms of validity (Wiersma & Jurs, 2009) and then Phase 3 collecting and analyzing data according to the qualitative method (Giorgi, 1997). These steps occurring in two consecutive phases within one study makes it possible to evaluate data, then collect results from participant interviews (Kilgo et al., 2015). This design is ideally suited to the research questions set forth, first being studied quantitatively Phase 1 by examining the graduation rate details and Phase 2 surveying sample colleges and then qualitatively Phase 3 by interviewing retention professionals.

Population and Sample

To answer the research questions the Integrated Postsecondary Education Data System, (IPEDS), was the data source with a population that consists of 910 public two-year colleges in the United States that are degree/certificate granting institutions. The dataset was queried to extract data files for public two-year community and technical colleges for the academic years 2008-2009 and 2013-2014 and their associated graduation rates. Through the examination of the

IPEDS data, it was hoped that patterns would surface that could highlight successes in student retention and graduation revealing opportunities for an inquiry relating to programs, processes, and practices.

The institutions that increased their graduation rates between 2009 and 2014 became the stratified sample for the survey and interview. By definition, a stratified sample is an identifiable subgroup, or strata of the original data source (Patten, 2009), in this study the IPEDS public two-year colleges are a sub-group, that is further stratified by identifying those institutions with increased graduation rates. The strata selected are critical to the results of the research that asks how colleges achieved higher rates of persistence and graduation.

The analysis of the IPEDS data allowed for the identification of the institutions with graduation rate gains, these become input for a researcher-designed survey. Using the online survey tool, Qualtrics, a questionnaire was delivered to retention program leaders or similarly functioning staff who were recruited identified? from the institutions in the stratified sample. The survey was distributed through email to the colleges demonstrating gains in graduation rates to inquire for details of their perceived effectiveness of practices by utilizing a five-point Likert scale (see Appendix B). Additionality, these retention leaders were asked to participate in a semi-structured follow-up interview.

Participants of the online survey had the option to withdraw from the study at any time. Participants could choose to answer survey questions and exit or proceed to the next phase, where each was asked to participate in the interview phase of the study. No further contact would occur when a participant opted out of further participation in the study. The self-selecting participants were prompted to provide their contact phone number and preferred date and time for a semi-structured interview.

Quantitative Analysis and Instrumentation

The quantitative analysis first calculates the differences between graduation rates between the years 2009 and 2014 for the colleges collected from IPEDS. The ability to replicate the sample provided from the IPEDS preserves the reliability of the research. An analysis using a T-Test to assesses whether the means of two groups were statistically different from each other, which allowed for the determination of whether the threshold was met to establish criterion validity.

Gathering the selected data on public two-year community and technical college graduation rates from the IPEDS began by accessing the dataset found online at https://nces.ed.gov/ipeds/datacenter/Default.aspx. Next the criteria for the query were selected. The Data Center screen offers the option to select “Compare Institutions” located on the left side of the screen which led to choosing variables for the data selection query.

The user when prompted to answer, “How would you like to select institutions to include in your data file/report?”; “by group” was chosen. Next, *Institution Sector* was expanded, and public two-year was clicked; and *Institutional Category* selection was expanded and “Degree-granting, associate's and certificates” was checked; lastly *Miscellaneous Indicators*, “U.S. only” and “Title IV participating” were checked. A summary of the accessed data file query revealed the number of institutions meeting the selection criteria was 910.

The next step for obtaining graduation rate data was to enter in the Data Center under the heading *Step 2 Select Variables*. First, “Graduation Rate, total cohort” was chosen for the years 2009 and 2014. The next step was to choose the variable “Graduation Rate Increase” designated as a derived variable. The difference was defined as the Graduation rate, total cohort (2014) minus Graduation rate, total cohort (2009). Finally, *Step 3 Output* required clicking through "Continue" and the result was a file that was Excel-ready.

The query used to collect the data from IPEDS is summarized in Table 1. The dataset query categories, criteria, and output fields are identified in the table. The resulting file was analyzed using Microsoft Excel.

Table 1

IPEDS Dataset Query and Output Items

Selection Category	Criteria	Resultant File
Institution sector	Public, two-year	Unit ID
Institutional category	Degree-granting, associates	Institution Name
Other indicators	U.S. Only; Title IV participating	Graduation rate, total cohort
		Graduation rate change

Graduation rates for 2014 and 2009 were compared to determine their differences. Next, the extracted IPEDS file was sorted by graduation rate increases to obtain the stratified sample of colleges. By examining the results and organizing the colleges with graduation rates above 48 percent, it was possible to divide the data into subgroups based on their percentage of increase. Institutions were identified by their geographic region, campus setting (e.g., urban or rural), but not their names. This provided anonymized institutional data that facilitated an analysis that remains generalizable within regional and campus settings while not focusing on the performance of individual institutions.

In phase 2 of the research a survey called *the Promising Practices Survey* (Appendix B) was distributed via email link to every college with a graduation rate that increased significantly identified in Phase 1 of the study. Every participant had the option to withdraw from the study at any time. Participants could choose to answer survey questions and exit or proceed to Phase 3 of the study, the interview phase. No further contact occurred when a participant opted out of further participation in the study.

Qualitative Instrumentation and Process

The colleges in the sample (Phase 1) and survey (Phase 2) were the input to the qualitative research (Phase 3) that captured phenomenalogical detail through semi-structured interviews. This was done by utilizing data reduction that gave the resultant enduring themes as described by of Van Manen (1997) and Giorgi (1997) through thematic coding and analysis, and finally, summarization. The thematic reduction procedure required repeated analysis of the interviewee capta. Through reading and rereading the raw capta from successive interviews, meaning units emerged and were coded. Finally, enduring themes become evident through the reduction process (Lichtman, 2013).

Gathering the perspectives of college retention program leaders or similarly functioning staff among public two-year colleges the interviews guided deeper understanding of the institutional conditions, context, and environment. This allowed for the telling of their stories as Groenewald (2004) states, “Data-collection interviews continued until the topic was exhausted or saturated, that is when interviewees introduced no new perspectives on the topic” (p. 11).

Capta Collection

After the identification of colleges in phase one the subsequent contact with the subject colleges was made by telephone to identify a specific individual contact, to encourage, and to gauge willingness for participation in the *Promising Practices Survey*. Recruitment of survey participants occurred through a telephone call. Typically, the college retention program leaders or similarly functioning staff were the respondents to the online survey instrument which was sent via email link utilizing the software application Qualtrics. During the telephone recruitment of participants an explanation was made that during the survey there would be a question asking for their participation in an optional follow-up interview.

The researcher-designed online survey, titled Promising Practices Survey was modeled to gather input from the stratified sample of colleges that had improved graduation rates between 2009 and 2014 (see Appendix B). The survey focused on practices implemented by the collge that resulted in increased student persistence. It was developed to fit on one page, featured clear and complete directions, addressed the objectives of the study, and was titled *Promising Practices Survey*. The survey utilized an appropriate scale, included features for relevant information, created a minimimal burden for the respondents, and included a statement of appreciation (McDavid & Hawthorn, 2006).

The *Promising Practices Survey* measured the underlying attributes while ensuring its operationalization. In this way, the translation of the concept into a functioning reality accurately reflected its construct (Patten, 2009). The online survey link was sent to sixteen retention program leaders or similarly functioning staff via email during May and June 2017. The *Promising Practices Survey* used questions having a five-point Likert Scale and a numerical rating question that allowed for consistent collection of data.

An evaluation of the *Promising Practices Survey* instrument verified that it provided a valid measurement in alignment with the studies research questions. Additionally, the survey was administered to college retention program leaders to effectually obtain perceptions of practices employed by those colleges working to increase graduation rates. This construct has strong validity based on the alignment of survey question one to the subsequent questions, two through six.

The follow-up procedures for reaching individuals who did not respond to the survey link in the first week was to conduct the survey through telephone interviews or send the survey link again via email. Ten colleges not responding within the first week were contacted, eight elected to receive the email link a second time and two colleges opted out of participation. Interview contact data was collected during the *Promising Practices Survey* to arrange a date and preferred time to conduct the follow-up telephone interview designed to facilitate greater understanding through the qualitative research approach. The *Promising Practices Survey* data was compiled for further statistical and qualitative analysis from eight respondents.

Quantitative Data Analysis

The Integrated Postsecondary Education Data System (IPEDS) was queried and data collected for public two-year colleges that award associate’s degrees and are eligible to participate in Title IV financial aid programs. The data selected contained college-level data indicating graduation rates for the years 2009 and 2014. This research report compared graduation rates across time and evaluated the perceptions of the effectiveness of promising practices that were implemented to improve student success, which means that the answers to the research questions lie in inferential statistics.

The Paired-Samples T-Test determined whether the mean of the differences between two paired samples differed from zero (Terrell, 2012). The Paired T-test calculated the difference within each before-and-after pairs of graduation rates, determined the mean of these changes, and reported whether the mean of the differences was statistically significant. The Paired-Samples T-Test allowed the determination of whether there were statistically significant differences between 2009 and 2014 for all colleges in the sample. Test-retest reliability demonstrated repeatability and consistency of the data sampling, as well as, for the survey presented via Qualtrics.

The research questionnaire analysis intended to garner the perceived effectiveness of the most promising practices for raising graduation rates. The One-way Analysis of Variance (ANOVA) was used as a statistical test. There are five or more levels of the independent variable and the need to determine whether there was statistical significance in the differences in their perceived effectiveness of the practices employed for student success. Examples of practices included student advising/coaching, residential communities/cohorts, learning interventions, academic pathways, and first year success courses (CCCSE, 2012; Kelly & Schneider, 2012; Kuh et al., 2011).

Qualitative Capta Analysis

Use of an informed consent document and confidentiality protocol ensured ethical research. Participant names remained in a separate location from the research report to protect identities; only pseudonym names were used, and the consent of all participants was obtained. The semi-structured interviews were conducted via telephone and recorded during the months of May, June, and July 2017. The four interviews were transcribed, then coded to facilitate analysis and construct meaning utilizing thematic analysis (Creswell, 2014; Lichtman, 2013; Miles & Huberman, 1994). The iterative process of thematic analysis was employed to safeguard the process of conveying the participants' intended responses (Haltinner, 2008; Vaismoradi, Turunen, & Bondas, 2013). For an example of the thematic analysis see Appendix C.

There is an engaging story to be told by community and technical colleges which over the 5-year period between 2009 and 2014 improved their graduation rates. Through this study, those stories were told, and evidence of the most effective practices discovered.

Chapter IV: Presentation of the Findings

The identification and examination of high impact programs, processes, and practices which positively affect degree completion in public two-year colleges was the goal of this research. The inquiry begins with Phase 1 to answer Research Question 1 aiming to understand "which two-year colleges have demonstrated significant improvement in graduation rates between two points in time (2009 – 2014)?" The analysis of the Integrated Postsecondary Education Data System (IPEDS) revealed the population of public two-year colleges with graduates in years 2009 and 2014 to be a total 910 colleges, analysis showed that sixteen colleges had increased graduation rates significantly.

The Phase 2 discovered quantitative findings from the *Promising Practices Survey* that answer Research Question 2 "What kinds of retention initiatives, programs, systems, processes, and practices are utilized?" Phase 3, the semi-structured interviews were conducted during May, June, and July 2017 to answer Research Question 3 "How do retention program leaders describe their programs, processes, and practices that they perceive to significantly affect student persistence through to graduation?"

Findings on public two-year community and technical college graduation rates were accessed from the U.S. Department of Education's National Center for Educational Statistics (NCES) on January 22, 2017. Data was downloaded from the Integrated Postsecondary Education Data System (IPEDS) at https://nces.ed.gov/ipeds. The ex post facto data were examined to determine the differences between 2009 and 2014 graduation rates at public two-year colleges from the data aggregated at the college level in the IPEDS.

Given the colleges that exemplified graduation rate increases of forty-nine percent and higher (n=16), were contacted with the request of their participation in a survey and interview regarding programs, processes, and practices that specifically targeted student success.

All the institutions that participated in the *Promising Practices Research Survey* (n=8) were invited to participate in a semi-structured follow-up interview, which was conducted via telephone. The colleges that chose to participate in *Promising Practices Interview* (n=4), responded to four open-ended questions.

Quantitative Findings

The IPEDS dataset encompassed all public two-year colleges resulting in the identification of the studies universe, the institutions that had graduates between the years 2009 and 2014 (N=910). From the public two-year colleges in the sample, two-thirds had graduation rates that fell below 30 percent.

The majority of 2014 graduation rates for public two-year colleges were below 22 percent. Examination of the data revealed a negatively skewed graduation rate, presented in Figure 5, with few institutions attaining a graduation rate above 48 percent. For example, 180 colleges had graduation rates between 10 and 15 percent as depicted in Figure 5. The ranking of the first two quartiles of data for the 910 IPEDS two-year colleges with graduation rates above zero falls below 21 percent for 2009; the mean graduation rate was 20 percent.

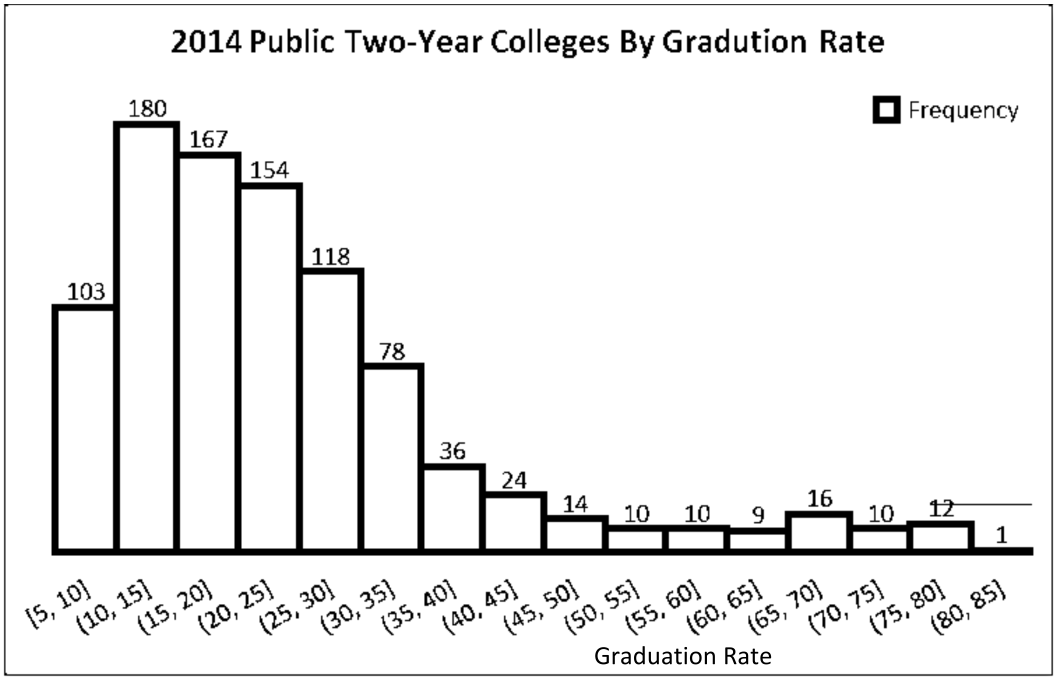


Figure 5. Negatively skewed 2014 graduation rates.

The overal mean graduation rate improved in 2014, compared to 2009, to 21 percent from 20 percent. It is notable that when comparing the graduation years 2009 and 2014, there were 383 colleges that decreased in graduation rate, 67 remained the same with no increase, and 460 colleges increased their graduation rates.

Item Analysis

Data was stratified to gather a sample of institutions with graduation rates that increased and had obtained a graduation rate of forty-nine percent or higher. The stratified sample consisted of sixteen community and technical colleges ranging in size from small to large. Eight colleges participated in Phase 2 of the research, the *Promising Practices Research Survey*. Three (37.5%) were classified as small (up to 4,499 students), three (37.5%) as medium (4,500–7,999 students), and two (25%) as large (8,000–14,999 students), and none were extra-large (15,000 or more students). Nationally, 48% of community colleges are small, 23% are medium, 18% are large, and 12% are extra-large (CCCSE, 2012). Data from the study sample closely resembles the distribution of size classifications of the overall national data.

The community and technical colleges participating in the study represent geographically diverse locations in the midwestern, southeastern, and northwestern United States and range from isolated rural communities to large metropolitan areas. The stratified sample represents less than 2 percent of the 910 colleges and 3.44 percent of colleges improving graduation rates and 100 percent of those increasing and graduating at least 49 percent as reported in the IPEDS.

The survey respondents include one urban-serving college (14%), two suburban-serving colleges (28%), and five rural-serving colleges (58%). Fall 2009 data indicate that among all U.S. community colleges, 18% are urban, 20% are suburban, and 62% are rural (CCCSE, 2012). The colleges in the research sample closely parallel the profile of the settings of the technical and community colleges across the United States.

Quantitative Detail

The study was to examine the high impact practices aimed at student success in place at the colleges which were identified in Phase 1 as having significant graduation rate increases. In Phase 2, the online survey of the sample colleges identified programs, processes, and practices which were deemed most impactful. These quantitative methods were used to answer research questions 1 and 2.

Research question 1. Which two-year colleges have demonstrated significant improvement in graduation rates between two points in time (2009 – 2014). The population consisting of 910 public two-year colleges was sorted by graduation rate increase and the data file shown in Table 2 represents the colleges with significantly increased graduation rates between 2009 and 2014 stratified by increase rate. These colleges make up a sample that matches the makeup by size and geographic profile of the overall national composition of all public two-year colleges. Sixteen public two-year colleges demonstrated a graduation rate of 48 percent and higher with a corresponding increase between the years 2009 and 2014. The colleges in the sample demonstrate graduation rate percentage increases from 80 percent down to 4.2 percent.

Table 2

Stratified Sample of Graduation Rates U.S. Public Two-Year Colleges from IPEDS

Type Institution	2014 Graduation Rate	2009 Graduation Rate	Rate Increase	Percent Increase
LA rural Technical College	72	40	32	80.0
LA rural Technical College	59	35	24	68.6
KS rural Community College	52	29	23	79.3
WA urban Technical College	50	31	19	61.3
IL rural Community College	49	31	18	58.1
IL remote Community College	72	57	15	26.3
ID rural Technical College	51	37	14	37.8
WA suburban Technical College	63	53	10	18.9
CA suburban Community College	56	48	8	16.7
IL rural Community College	58	50	8	16.0
WI suburban Technical College	51	43	8	18.6
IL rural Community College	57	52	5	9.6
IL rural Community College	52	48	4	8.3
MN rural Technical College	58	55	3	5.5
CA suburban Community College	59	56	3	5.4
MN rural Technical College	50	48	2	4.2

Table 3 depicts the study's descriptive statistics for the sixteen sample colleges having the mean graduation rate for 2009 of 44.56 and the mean graduation rate for 2014 of 56.81. A Paired-Sample T-Test demonstrates the mean of the differences between two paired samples, with a difference from zero indicating the increase in graduation rates by the stratified sample colleges is significant. The Paired T-Test calculates the difference within each before-and-after pair of graduation rates and determined the mean of these changes as 12.25 percent for the stratified sample colleges.

Table 3

Descriptive Statistics for Graduation Rate Comparison of Sampled U.S. Public 2-year Colleges

	2014 Graduation Rate	2009 Graduation Rate
Mean	56.81	44.56
Variance	52.03	91.20
Observations	16	16
Pearson Correlation	0.4643	
Hypothesized Mean Difference	0.0000	
Degrees of freedom (df)	15.0000	
t Stat	5.50	
P(T<=t) one-tail	0.0000	
t Critical one-tail	1.7531	
P(T<=t) two-tail	0.0001	
t Critical two-tail	2.13	

The difference between 2009 and 2014 graduation rates among the sample colleges, with 95% confidence, falls between 7.5 and 17 percent higher. These graduation rate increases therefore are statistically significant. The Paired-Samples T-Test provides the determination that there are statistically significant differences between 2009 and 2014 for the colleges in the sample.

Research question 2. What kinds of retention programs, processes, and practices are utilized? The researcher surveyed a stratified sample of colleges with increased graduation rates of forty-nine percent and higher employing an online survey in an effort to identify retention programs, processes, and practices. The results of a researcher-designed, online survey titled *Promising Practices Survey* was administered through Qualtrics. It revealed the perceived impact of programs, processes, and practices on graduation rates. Eight of 16 colleges responded to the requests to participate in the survey regarding the promising practices for student success, a response rate of 50 percent. The completed *Promising Practices Surveys* are included in Appendix D.

Advising and Coaching were rated as the most impactful practices by 100 percent of respondents when ranking practices for their impact on the graduation rates at the participating institutions over the 5-year period, 2009 through 2014. When rating the effect of success programs for their impact on improving graduation rates Supplemental Instruction and First Year Student Seminar courses were rated by 80 percent of the respondents as having medium to high impact.

Figure 6 depicts the summary of rankings from the *Promising Practices Survey* revealed in the survey question 1. The eight respondents gave their perceptions of the practices at their institutions of: first-year seminar, cohort model, supplemental instruction, advising and coaching, on-campus housing and other, where other allowed for entry of text.

Please, rank the following practices for your perception of their impact on the graduation rate at your institution over the past 5 years? (from 1 to 6, with 1 being greatest impact)

#	Answer	Rank1	Rank2	Rank3	Rank4	Rank5	Rank6	Responses	Mean
1	First-year Student Seminar (freshmen experience program)	0	4	3	1	0	0	8	2.63
2	Cohort Model	0	0	1	4	2	0	7	4.14
3	Supplemental Instruction (Intervention Lab)	0	4	3	1	0	0	8	2.63
4	Advising and Coaching	8	0	0	0	0	0	8	1.00
5	On-campus Housing	0	0	0	0	3	2	5	5.40
6	Other	0	0	1	1	0	1	3	4.33
	Total	8	8	8	7	5	3	-	-

Figure 6. Promising practices survey summary of rankings.

When the respondents were asked to rank the practices that were most impactful on graduation rate the response of all eight was that Advising and Coaching ranked number one (Figure 6). First-year Student Seminar was ranked second by four college professionals and Supplemental Instruction (Intervention Lab) was also ranked second by four. Next, the First-year Student Seminar was ranked third by three colleges and Supplemental Instruction (Intervention Lab) was also ranked third by three, there was one college listing Cohort Model as third in importance and another college indicating Other. The college selecting Other used the textbox to enter “Engagement Opportunities Built By Students for Students”. Also, of note were fourth ranked responses where four colleges indicated Cohort Model, and one college each indicated First-year Student Seminar and Supplemental Instruction (Intervention Lab), and one college that ranked as fourth Other, then provided “small class sizes” in the textbox.

The Qualtrics survey results are summarized in Appendix D: Promising Practices Survey Summary Report. Those participating in the online survey were from the areas of Retention, Student Services, and Registrars’ offices and were represented by managers, a registrar and a Vice President with a tenure at their institutions from one year to over 30 years. Survey participants were offered the opportunity to further inform the research by selecting a preferred date and time for a semi-structured interview as the last step of the survey.

Qualitative Findings

Four telephone interviews were conducted with a registrar, student services vice president, and two retention coordinators. The interviews were analyzed for recurring themes and reduced to identify the effectiveness of student success programs, processes, and practices in place at these colleges. The interviews focused on the programs, practices, and procedures in place at the participating colleges. Advising and coaching was revealed to be the most impactful practice. Supplemental instruction and learning labs were rated second most impactful programs. First year seminar courses in place at the colleges were considered instrumental in gaining student engagement early in their college-going life.

Research question 3. How do retention program leaders describe their programs, processes, and practices that they perceive to significantly affect student persistence through to graduation?

Through interviews with four self-selected professionals from the *Promising Practices Research Survey* an iterative process of thematic analysis was employed to discern themes (Appendix E). The programs described as most impactful for their effect on student success were advising and coaching, followed by supplemental instruction/learning labs and first year seminars. The advising and coaching is initiated through early alert reporting mechanisms. These early alert reporting systems include SARS, Grades First, Starfish, and customized district-wide systems. When the average graduation rate at public two-year colleges is 20 percent it is of interest to others what the best practices available are for increasing graduation rates.

The culture of the campus was attributed to the success of participating colleges to their success in improving the graduation rate. Focusing on the needs of students was an overarching theme of the interviews of the study. Follow-up emails, conferences, and interactions were the in-depth means for accomplishing change and student engagement, and improved persistence through to graduation.

These and more insights were elicited from four semi-structured telephone interviews conducted in Spring and Summer 2017 that brought to life the programs, practices, and processes utilized in retention programs of the colleges that had significantly improved graduation rates between 2009 and 2014. Engaging and connecting with students are the most vital thing to retention, because by putting learners and educators together in the right places and spaces it helps create student success, according to one retention coordinator. The four primary questions utilized in each interview were:

- What does your college attribute its significant graduation rate increase to and why?
- What are the elements in place for the programs, practices, and processes of your college that most impacted the graduation rate increase between 2009 to 2014?
- When and how did programs, practices, or processes come to be implemented? Were there multiple steps and departments involved in the planning and implementation?

- Regarding goals and what do you have upcoming in the future, are there plans for implementing anything in student persistence that you're considering?

What emerged as a result of the interviews was the story of successfully implemented plans focused on student success. Academic Counseling and coaching were identified as key components and noted as integral to student persistence in every interview. The discussion of the interviews that follows delves further into the systems of advising and tutoring.

The subject colleges that participated in Phase 2, the survey, and opted for participating in Phase 3 the interviews, were self-described as having a student-focused culture where the daily focus is student success. The average 20 percent probability of graduation is an unacceptable alternative for these sample institutions.

Phenomenological Study

Upon completion of the quantitative analysis and ensuing findings in Phase 2, the qualitative study phase was set in motion. Four self-identified interviewees agreed to be interviewed. The interviews incorporated a semi-structured approach and were conducted by telephone; the interviews were guided by the study's Research Questions 2 and 3. Phenomenological research is concerned with the lived experiences of the people (Lichtman, 2013). As professionals working with students in the area of enrollment management and retention at public two-year colleges with increasing graduation rates made the respondents uniquely able to describe the phenomenon of implementing promising practices. The following describe the capta from the interviews in which the interview questions were specific to programs, practices, and processes in place between 2009 and 2014.

Interviewee profile. The context of this study is informed through a narrative derived from four interviewees representing institutions with demonstrated improvement in student retention. Enduring themes will be presented that resulted from their individual and collective contributions.

Pseudonym names are employed in the presentation of the findings; this is done to avoid unnecessary focus on any specific institution or individual participant.

Christine has been employed by a Minnesota community and technical college as its registrar for the past ten years. The interview was conducted on April 26, 2017. She shared that she has been a 30-year employee of the college. The college reported a 50 percent graduation rate, an increase of 4.4 percent between 2009 and 2014. The college serves a student population of 3,050 in a rural community where student persistence through to graduation has been a specific focus for six years.

The second interview was with the retention coordinator. Bill is employed by a small, rural Illinois college with a graduation rate of 58 percent and was interviewed on June 13, 2017. The programs, processes, and practices considered impactful toward the college's 16 percent increase graduation rate were explored in the interview.

The third interview captured the detailed impressions of the retention coordinator who has held that position beginning in the fall of the 2016-2017 academic year at a rural Illinois college. My interview with Paige was conducted in two parts on June 23 and June 26, 2017. The graduation rate at this Midwestern community college was 72 percent, representing an increase of 26 percent over the five-year period. The college has specific programs, practices, and processes that were impactful toward raising student persistence through to graduation. Advising and coaching were ranked as the most impactful program in the *Promising Practices Research Survey* submitted by Paige, and the elements that are in place that guide the advising and coaching at this Illinois community college are its early warning reporting and tutoring processes.

The fourth and final interview was conducted on July 10, 2017, with the Vice President of Student Services, Robin, of a large-size (14,869 students), suburban California college having a graduation rate of 56 percent. The questions asked were specific to programs, practices, and processes in place between 2009 and 2014 which were considered impactful toward the college's 16.7 percent increase graduation rate.

Four enduring themes structure the ensuing presentation that resulted from the phenomenological qualitative inquiry. The themes are a *student-focused culture*, *intentional student onboarding*, *proactive persistence process and supports*, and *application of well-leveraged technology*.

Student-focused culture. The themes which emerged from the interviews conducted speak strongly toward a deliberate strategy in place to develop a student-centered environment aimed at empowering learners to succeed by offering them options designed for that purpose. Attributes of programs are built with the intention of maintaining a student focus, discovering what is necessary for them to succeed and keeping watch that retention is the result. Much improvement was attributed to having key personnel in retention positions, in combination with strategic hiring in tutoring and intervention roles.

Christine noted the advantage to working as a team that included the academic side and the administration, advising and admissions, financial aid and faculty. She recalled having met at professional development conferences with colleagues from other institutions who have more difficulty working inter-departmentally. She says that even the physical limitation of having five campuses has not been a barrier with email and improved communications. Adding that it is invaluable to all work together, that faculty can work very well with the administration, and financial aid with the business office across five campuses. Having regular weekly meetings where every department has the opportunity to speak regarding what is going on, is important and making those connections is for the students' benefit. In this way, everybody knows what's going on.

An enrollment management group has been put together at the Minnesota college to tackle student persistence and student success planning for the future. Their plans include implementing staff and faculty training on advising and coaching. Christine stated that faculty is often involved in motivating students. One way, for instance, was through bringing in industry professionals in their career majors to speak to students. An example of this was the college's electrician program, a high-demand career where the students met with company representatives. The result was that all spring graduates had job offers by the preceding February. These students were able to know where they were going, anticipate the result, and were highly motivated to get there.

The retention coordinator at the rural Illinois college, Bill, likewise credited the retention team for implementing consistent advisement processes in place for four years. Key to the student success at his college that is in a less populated area, Bill indicated that advisement has always been a one-on-one kind of experience, as a lot of times people know each other. One of the things that the staff had to work on was being consistent in advisement across different student groups.

Being a part of the Academy of Student Persistence and Completion means that he has participated in some large meetings, and the thing that stuck with Bill was when one of the college presidents in attendance said, "I really think we have too much going on here." Bill said he was just really taken aback. He thought, “You would rather do one thing at a time than figure out how to multitask and address because you're overwhelmed. Not because it's overwhelming the student, not because you have any information that says that this is not going to work. It's because you're feeling overwhelmed.” He feels it is compelling that seeking out and finding resources so that you can feel less overwhelmed is necessary, instead of pulling back because you're scared.

Sometimes a campus culture must change gradually, one of the challenges Bill had when the retention initiative started was there was no sentiment of “Wow, this is a great thing." It was more, “We don't know how to feel about this." He shared that limping along is a lot better than not moving; there needs to be a willingness to work and keep working, there's no time to pat yourselves on your backs. Education is not static; it is ever-changing.

The Illinois district where Bill is retention coordinator has a declining population. It is a district that is not growing; he noted that it is somewhat turning into a retirement area. Retention coordination has the focus of getting these students through which is vital. He said, “Once the students are there, colleges must nurture and love them to get them through. Public two-year colleges are in a situation similar to growing strawberries in the desert; we have got to make sure we're watering them right.’

As one interviewee noted, especially in urban areas, higher than average ACT test scores and a higher volume of applicants provide for a much larger pool of students, this gives urban and suburban colleges a sense of peace. However, if a completion initiative for college funding takes hold, these schools will have a harder time while colleges with a student focus recognize that when their students succeed the college too is a success.

Staffing and strategic hiring were identified as contributing to increased graduation rates at the California college where Robin is Vice President of Student Services. The evaluations department has gone from two people to six people, and they are going through transcripts and finding students, many of whom may not have been here for years. The college has reminded students by sending a notice that says, “You can get a degree!” Moreover, according to Robin, a degree for these students has the ability to change things in their job, or salary. The college has received a tremendous amount of interest as a result.

One account recalled by the Student Services VP was of a student in a Starbucks at the mall, who was going to participate in a video conference with a counselor while his friends were going to shop for a while. This is an example, she said, of how students are being provided educational supports that fit their lifestyle and their needs. Robin said, “With all the challenges vying for our college administration’s time, let's talk student success. That's what we are all here for; we wouldn't have a job if we weren't doing that." This is a concise summation for the task of addressing the need for a student success focus at public two-year colleges.

Intentional student onboarding. Freshman Seminar is a required student success course for those students who test into two developmental courses on many campuses. These course focus on study skills, campus resources, including scheduling and enrolling in the upcoming term. This helps students get off to a good start, at the Minnesota college there is what is called ‘Getting Connected Day’ usually on the second day of classes. Christine said this when the faculty is in the commons eating with the students; students are able to meet their advisors, booths are set up for clubs, the library will have a booth on tutoring. Also, the community comes in give all kinds of freebies like shampoo samples from the beauty shop, the bank gives out things, and a local healthcare agency talks about sexual activity and has a game related to what the consequences can be of an unhealthy lifestyle. Christine says 'Getting Connected' Day helps set the tone for the student-focused culture that the staff and faculty want to share with the student from the beginning.

Introduction to Online Learning is a self-paced orientation for students with courses online. The college has also beefed up orientation, according to Christine. This is when all students meet their academic and financial aid advisors and this way all students are advised and are getting books in their hands for the first day of class, which used to be a problem. Another initiative that engages students is the on-campus Refresh Session that occurs during the first week. These are lunchtime sessions that last an hour and are meant to guide students in their access to email, D2L BrightSpace, eServices, Smarthinking, and financial aid. In total, the efforts in place at this rural Minnesota college embody focused processes consistent with student persistence and directed by the needs of students while being conscious of gaining the shared commitment by institutional stakeholders.

Proactive persistence processes and supports. The Minnesota college interviewed attributes its significant graduation rate increase to a combination of all the new things that they are doing. Christine says the software package called Grades First is the warning system that allows faculty to enter a warning to students who are not doing well. The warning goes to the student and the students' advisor who can follow-up with the student. It is important that faculty wants students to know very early if things are starting to slip. Many elements that are key to student success are monitored such as, not showing up for class, incomplete assignments, grades that are not keeping up, or high likelihood the student is having trouble. According to Christine, this helps to avoid the student not knowing that they are not doing well, and what’s going wrong and encourages them toward the available services of free tutoring and study hall for athletes.

At the rural Illinois college interviewed, there is a tutoring center located in what's called the LARC, an acronym for Library and Academic Resource Center. For the most part, the tutors are other students, who have excelled in the subject. Students meet with tutors typically during published days and times. The staff at the LARC make the arrangements for setting up tutoring sessions, working with academic coaches, tutors, and students.

A second Illinois college has implemented a series of standardized coaching and advising questions and conversations. Following these prescribed steps has allowed the entire process to be consistent across students. Over time, the transition to individual advisers being the ones managing the students' completion records has occurred, including monitoring early alert systems for their students, and what resources the students were requesting. The early alert system in use is homegrown, and according to Bill, others including himself wanted Starfish, but the district built their own system, and now he likes the way that it works. The benefit has been with four campuses utilizing different aspects of the system, they have been able to address specific issues related to the district as a whole while allowing for a little bit of customization here and there.

According to Paige, progress reports are sent when a student has a D or an F, they miss two or more classes consecutively, if they do not turn in assignments, or they miss tests. After the report criteria is entered by the instructors, each report is system generated. Additionally, an email with the progress report is sent to the students. A copy of the report goes to the retention coordinator, who contacts the student. After speaking with students, the advisor/coach contacts a tutor, then the tutor contacts the student, they set up the time, tutoring takes place in the library. Lastly, follow-up conversations take place with the student or in some cases the instructor a week to two weeks following the initial report.

The focus on retention requires a fulltime focused approach and requires coordination among tutors versed in specific subject courses; these are often former students or adjunct faculty. This coordinated approach has led to improvement says Paige, “A benefit of working on a retention initiative on a small campus is that the scale allows contact with every student targeted by the early warning program.”

When asked about upcoming changes and plans Paige pointed out that students participating in developmental instruction will be guided to the tutoring program in the same way as students in credit-bearing courses are through the college’s instructor initiated progress reports; this is another way to expand for students needing supplemental instruction. On the horizon for the coming year, there is a planned implementation of a tutored writing lab that will offer editing assistance on papers. The tutor-led writing lab will be for students that self-select it though it might be mandatory for some student athletes.

The office of Student Services at the California two-year community college has added four academic coaches. According to Robin, these coaches are graduate students who ask advisees, "What's holding you up? Why aren't you getting your homework in?" Or, "Why are you late for class?" These counselors look deeper at not just the academic attributes but the real things of life, "What's going on with you, are you all right?" “Okay, you're having trouble getting a ride. Let's make a list." This “more real-life counseling” which has helped the college tremendously, per Robin, who noted it has been especially positive for the disabled student population, veterans, and foster youth. “In a way, it’s been amazing, because it's somebody helping them organize their life,” said Robin, “It's more like, ‘What is it going to take for you to be successful?’ When students start seeing that success, they want to jump on board.”

The academic coaches are all graduate students from the counseling program at the nearby university. The counseling program allows these counselors to acquire experience and the students to get one-on-one attention that's non-judgmental but most helpful for organizing their life. According to Robin, academic counseling is a tremendous help for many students who would otherwise, stop out or discontinue their education entirely.

When asked about supplemental instruction, which was ranked second in the California college's *Promising Practices Research Survey* as most impactful for its influence on graduation rate increases, Robin identified hiring as vital to their ability to scale supplemental instruction for their student population. "Two terrific faculty were hired, one in our learning center, which is called the TLC, and the other in the STEM success center," she reflected. Together, they put together the tutoring programs that instead of being your standard tutoring, are peer tutors and special foundations labs for both English and math. The college has instituted a program that is called Foundations Labs, where learners can get one-on-one help with their English courses or improve their math skills, this is in addition to the regular tutoring which is aimed at students who are already in college-level classes: history, writing, or math. Whereas, the supplemental instruction is non-credit and the college has worked along with the local community to get students into it. Additionally, online tutoring has been added called NetTutor, which makes additional tutoring available online at any time. Each student is allocated 20 hours; in that way, it is a paid service.

Another element of hiring that emerged as a key component of the tutoring intervention at this California college is embedded tutors. In some of the more difficult courses where they saw a need, where the results were not as high as desired, for instance on anatomy and physiology, embedded tutors were put in place. In these cases, a student is paid to be in that class to be a tutor who is helping the students doing the labs and studying in preparation for tests, in addition to the instructor. Embedded tutoring has helped raise the rates of completion and success.

Another unique facet of intervention in place on the campus in California are learning labs that are open until midnight. Robin pointed out the exceptional flexibility of faculty responding to the needs of students, particularly a need in computer science and chemistry for students who often are working and trying to get skills better. According to Robin, their practice is to listen to students instead of just doing what's normally accepted. They saw the needs of those she termed “techies from Silicon Valley” where none of them want to get up early Saturday morning, so Saturday open lab was added, literally open until midnight. The lab is open 12:00 noon until midnight on Saturdays for some of these high-level course interventions, and per Robin “believe it or not they're all up late, that's been working out well.”

Application of well-leveraged technology. Undeniably, one of the most impactful attributes of a successful student retention program for public two-year colleges is the wise allocation of technology resources. Some valuable tools mentioned by interviewees of this study are Net Tutor, Starfish, SARS, Smart Thinking, and online supplemental instruction applications for writing assessments that are available.

Key to the student success at the California community college, according to Robin, are advising and coaching much of which is done online using video chat technology called Zoom, which allows appointments to be made through SARS, a is a software product that includes messaging, tracking, resource planning, and retention processes. It was noteworthy that a student can set up an appointment that is either chat, by phone, or Zoom, which has become incredibly popular, per Robin. The college has it set up so computer screens can be shared, and in this way, the student can see everything as though they are in the counselor's office. This has increased participation in appointments and decreased the no-shows significantly, a noteworthy point according to Robin. Because a student, whether they are at work, on lunch break, or home babysitting, can get online to meet with their counselor with Zoom, which has been a huge asset for the college to add this capability.

This college vice president sees online advising as being an enormous benefit because students can talk to a counselor in real-time. Students can find out how close they are to graduation, or get things set up, so they are moving forward without having to go to campus. Half of the college's students are part-time, most are busy, and they have other commitments, so if they don't have to come to campus for an appointment, it can change things around to a positive for them, which means a lot to them. "It is one of our top things that we have changed," said Robin.

When scaling useful strategies for a student population of more than 14,000 students, the college has specifically leveraged a couple of things, namely academic counseling and their evaluations department. Using a Document Management System (DMS) the admissions department has been enabled to improve the speed of its transcripted credit evaluation vastly. The admissions evaluators can go through and pull up all students who are within a certain range of units of completion. Then counselors devise an education plan and send an email to say, "Do you know with these three classes you will finish your AA in accounting? Click here if you want to make an appointment with me." This, Robin says, "Has been amazing." The college is getting a response rate of close to 70%; precisely, 68.4% of students are responding to the college-initiated correspondence. These students were unaware that they were that close to finishing a degree or certificate so by using the technology the evaluation team can affect a positive outcome.

The ability to leverage technology has benefited the students directly when, for instance, the college utilizes Zoom tutoring, the student sees the return in the time saved by not traveling to campus. For online tutoring, the California college uses Open Study, in addition to its peer-to-peer tutoring. A student can go online and ask a question, and another student can answer a question. Open Study is a free application, and so is Kahn Academy, which is also recommended. The Student Services VP sees it as amazing because the concepts are simply explained, and instruction on topics are accessible to everyone; she feels that Kahn as a resource makes sense as a useful tool. In this way, by finding out what the students need and figuring out how to offer it in the way that they need it the college can further guide student success. "Students can do it at their convenience and watch it as much as they want without any fear of embarrassment," said Robin.

When asked about future programs and processes planned at the California college, Robin responded regarding a collaboration developed that will model scenarios based on when students change programs and majors; the software will give projected completion costs and expected income in a selected field of study. This virtual reality for higher education is called EduNav. Currently, the college is uploading their different articulation agreements, matriculation details, and the course prerequisites to the developers of the system. It's a very detailed planning system developed by a collaborative agreement with EduNav. The California college is very excited about it; Robin offered, "Our students are just beside themselves that they can go in and try different scenarios." The students can see if they make a change, what classes they'll need, what it'll cost, and what they can earn later. It is an 'if this, then that' scenario, and it is exponentially more efficient than an advisor figuring out the same thing, and it takes away all of the guesswork.

When the initiative started with EduNav the company, a Silicon Valley start-up, had five technical guys leading it, and then 12 engineers working in the Ukraine doing the programming. The California college has provided insight into the software design through a team including its dean of counseling, dean of enrollment services, and dean of financial aid. Now EduNav is up to over 60 employees, with more than 30 engineers working on the next software release. The college has provided valuable intelligence assets for the initiative with regard to postsecondary education's needs, in return, the college obtains the mutual objective of making it exactly right and providing a tool for the success of their students.

Summary of Findings

The quantitatively ranked data on public two-year colleges with most improved graduation rates has reasonable internal reliability and test-retest reliability. The graduation rate for all 910 public two-year colleges consistently demonstrated a negative skew for lower than 22 percent mean graduation rate for the 150 percent of completion time associated with first-time, full-time students. Those colleges demonstrating graduation rate gains were surveyed and interviewed to provide a context to the student success experience on their campuses. The nuances provided suggest coaching and advising in addition to supplemental instruction and tutoring intervention had the largest impact of the programs, processes, and practices identified by colleges surveyed and having significant graduation rate increases between 2009 and 2014. These analyses establish that student success measures can be used to inform institutional decision-making regarding teaching practices, programs, processes, and practices within an institutional culture. Additionally, these analyses establish improved student advisement and monitoring that can be used for research with regard to improving student success in public two-year college students.

This study has revealed that colleges surveyed and participating in follow-up interviews were in agreement on what the most impactful programs, practices, and processes are that guide student persistence through to graduation. Of the sixteen colleges demonstrating significant graduation rate increases between 2009 and 2014, eight participated in the *Promising Practices Research Survey*, these responses are available in Appendix C. The survey results showed that advising and coaching were deemed most impactful, followed by supplemental instruction (intervention labs) and also, notable was the contribution made by first year student seminars (freshman experience programs).

A subset of the survey participants opted to participate in semi-structured interviews. The interviews lent clarity to the programs, practices, and processes through the four individual stories of these college professionals. Their institutions had graduation rates of 50, 54, 72, and 56 percent representing schools with student populations of 3,050; 4,330; 1,952; and 14,869 respectively. Through the qualitative analysis process, clear themes emerged. Summarized the themes were:

- Shared commitment by institutional stakeholders to student success
- Intentional curricular-driven student onboarding
- Student-focused persistence through processes and supports that are proactive and consistent with student individual and collective needs
- Application of well-leveraged technologies that support faculty in seeing, hearing, recognizing, and responding to individual and collective needs of students.

Chapter V: Summary, Conclusion, and Recommendation

Higher education is facing a shift in its need to address performance initiatives while focusing on student success. These expectations require leaders to devise plans for the future that will not only provide a more cost-effective education but also increase intentional efforts toward student retention.

Summary

The purpose of this study was to identify high-impact programs, processes, and practices which positively affect degree completion in public two-year colleges. The inquiry began (Phase 1) by accessing the Integrated Postsecondary Education Data System (IPEDS) to extract two-year colleges and their associated graduation rates for the years 2009 and 2014. The data was interrogated and ordered by rates of graduation. The analysis examined which institutions had significant increases in graduation rates. A survey was then employed (Phase 2) to gain an understanding of what programs, practices, and processes facilitated the student success at these colleges. Finally, interviews were conducted (Phase 3) in an effort to explain retention advancement as called for by researchers (Brock, 2012; Kuh et al., 2011).

To address the three phases of the research both quantitative and qualitative methods were utilized in a mixed methods design. Phase 1 was the gathering and analysis of the IPEDS graduation data for public two-year colleges. Phase 2 contacted and surveyed colleges with graduation rates that had increased significantly between 2009 and 2014 to by quantitative means identify high impact practices that were guiding their student success. In Phase 3, semi-structured telephone interviews revealed encouraging details regarding the programs, practices, and processes in place at some of the colleges surveyed. Vital to the study were the research questions that guided the process.

Research Questions

The following research questions guided this research.

1. Which public two-year colleges have demonstrated significant improvement in graduation rates between two points in time (2009 – 2014)? Sixteen colleges emerged as having significantly improved graduation rates between the two points in time, 2009 and 2014, with rates of increase of 4.2 percent to 80 percent (Table 3). The graduation rates of the public two-year colleges showing significant increases range from 49 to 72 percent. In the analysis of the IPEDS data, 383 colleges had a graduation rate decrease, and 67 remained the same with no increase, combined they represent 49 percent of all public two-year colleges.
2. What kinds of retention programs, processes, and practices are being utilized by the sample institutions from Research Question 1? A researcher-devised survey called the *Promising Practices Survey* was used to sample retention professionals at the colleges with significant graduation rate increases. Several vital programs, processes, and practices were considered to be impactful. Advising and coaching, supplemental instruction (intervention labs), and first year experience courses were rated as highly effective for their impact on student retention according to those participating in the survey.
3. How do retention program leaders describe their programs, processes, and practices that they perceive to affect student persistence significantly through to graduation? was answered through a series of interviews conducted in Spring and Summer 2017 with those college professionals responding to the *Promising Practices Survey* and opting to participate in the follow-up interview. The overarching impression from the

interviews was the strong student-focused desire evident in the responses when asked about the challenges facing the colleges in the study. Though they were divergent in size, geographical location, and setting each participant had an element of gravitas regarding the importance of student success.

The data collected from IPEDS on the public two-year community and technical colleges (N=910) show a negatively skewed graduation rate which was a mean of 21 percent (Figure 5); most of these colleges graduate less than 22 percent of students in 150% of the two-year timeframe. The colleges surveyed and subsequently interviewed had achieved 49 percent and higher graduation rates in 2014. The study analyzed the graduation rate data, then dug deeper into the colleges demonstrating significant graduation rate increases through a survey and follow-up interviews to reveal programs, processes, and practices in place that led students through to graduation.

Findings discovered during the qualitative section of the research were derived from an iterative reduction process. The resultant themes from the interviews were:

- Shared commitment by institutional stakeholders to student success
- Intentional curricular-driven student onboarding
- Focus on student persistence through processes and supports that are proactive and consistent with student individual and collective needs
- Application of well-leveraged technologies that support faculty in seeing, hearing, recognizing, and responding to the individual and collective needs of students.

The participants of the interviews were college professionals who are concerned about providing students with the tools necessary to become productive adults with satisfying careers.

These themes were shared in the interviews and tell a great deal about the programs, processes, and practices used in the participating institutions.

Student-focused culture. Keeping a student-focus is vital to student success initiatives as discussed in the interview portion of the study. An interview participant referred to the declining population in their district and the need for striving for student success as, “We are growing strawberries in the desert, we have got to make sure we're watering them right.” Many challenges are facing public two-year community and technical colleges and student success needs to be seen as a priority. As another interviewee stated, it is what we are all here for; we wouldn't have a job if we weren't doing that.

A clear precedent of the research participants is also their investment in positions in the areas of enrollment management and retention. This involves strategic hiring practices, such as evaluations department staff and utilizing graduate assistants as academic coaches, the recruitment and training of peer tutors.

Intentional curricular-driven student onboarding. First year seminar courses in place at colleges are considered instrumental in gaining student engagement early in their college-going life. These courses typically incorporate study skills, campus resources, and strategies for postsecondary success, including scheduling and enrolling in the upcoming term. For example, at the Minnesota college in the study, orientation for students is when students meet their financial aid and academic advisors and is one way that students are advised and become engaged. The colleges interviewed utilize an orientation module for students taking their first courses online, which is self-paced and familiarizes students to the online learning management system. The orientation module has led to improved outcomes for first-time online learners.

Supplemental instruction includes extra class sessions with an instructor, tutor, or experienced student and many programs include those preparing for college admission and those working through local community education and outreach programs. Many times, supplemental instruction is a program for developmental or foundational learning for English or math courses. In community and technical colleges developmental instruction is many times the students' first exposure to the campus environment and serves as an entry point to the college.

Student engagement with faculty and peers emerged as a theme of the interviewees of the study as it is integrated with many aspects of the mission of being student-focused. Many aspects the commitment to student success intertwine among the areas of Student Services such as enrollment, advising, academic coaching and retention.

Proactive persistence processes and supports. Advising and coaching were ranked as the most impactful practices by the *Promising Practices Research Survey* respondents. These colleges have in place an early warning reporting system that enables advisors to be alerted when students are missing classes, failing coursework or tests, and at other pre-set conditions that trigger a coaching intervention. For the process to work efficiently faculty and staff are trained, and as a result of the early warning process contact with students by email, text, or phone follow-up is accomplished. During the advisement, there are opportunities to engage with the student and provide needed support, either through tutoring one-on-one help or academic mentoring with faculty. Writing labs are an example of academic supports implemented to offer writing guidance and editing assistance on papers.

Application of well-leveraged technologies. Many opportunities to invest resources in technologies exist and there are a few that are essential supports that help faculty in seeing, hearing, recognizing, and responding to the individual and collective needs of students. Training and collaborative use of an early warning system is key to many retention programs. Some valuable tools mentioned by interviewees of this study are Starfish, SARS, Smart Thinking, Net Tutor, and Zoom. The suburban California community college in the study leverages the use of a technology called Zoom, this video conferencing application is used for academic advisement with large-scale success. Whatever technologies are available utilizing them and engaging students to use them will help to reach the objectives of a college while providing tools for the success of stakeholders including students.

Conclusion

Half of the two-year public colleges in the IPEDS database, 450 colleges, did not have a gain in their graduation rates between 2009 and 2014. Some colleges are improving, albeit slowly as at least one-third of the two-year public colleges are increasing graduation rate but remain below 50 percent graduation rate.

Seeing the strategies in place at the public two-year colleges in this study has shown how retention professionals have grasped the needs of students and taken steps to leverage this knowledge helping us understand that utilizing programs, processes, and practices can lead to higher persistence and graduation rates. The data does not tell the full story, nor do the interviews, because there is an innate desire, will, and drive behind student success strategies that work. A student focus is pervasive and the desire to find out what it takes to guide students through to graduation in the colleges interviewed. It could be said that these professionals feel they are there for the students rather than because of the students. The difference may be subtle; however, it is important.

The idea of a student-focused mission ties back to the theory of Transformative Learning by Jack Mezirow (1991), which states that changes occur within an entity, such as a campus culture, as its focus is redirected. When a student focus nets the result of higher graduation rates communities benefit also. This applies to public two-year colleges whose missions strive to elevate student and community advantages in their immediate locales and the greater economic marketplace. Adult Learning Theory is evident where a learner focus is dependent on students and is reflective of the pragmatism of Dewey by stressing meeting the needs of individual learners. A student-focused culture emphasizes the fundamentals of adult development that underlie the elements of student success. Adults construct knowledge and the meaning of education in ways consistent with their system of making meaning (Kegan, 1982; Kegan & Lahey, 2001). The goal of Progressivism is to change schooling so that it is no longer something that is done to students because students lose interest in true learning when schooling is viewed as having the goal of the transmission of knowledge, it is learning through experience that helps learners gain an education (Dewey, 1916).

Meeting the mission of providing a sub-baccalaureate college education through a community or technical college comes with an obligation to perform at a high level of vision for the learner. Indeed, learning is an individual endeavor, but the environment that supports learning is crucial to success. The academic supports in place can facilitate the growth of the self-agency of students either on a college campus, in a workplace, or in remote villages. Engaging a student in attempting and accomplishing goals is foundational to the student success behind the retention efforts investigated in this research.

Recommendations

A repeat of the research study in subsequent years would allow for the graduation rate mean to be assessed for whether two-year colleges have increased graduation rates above 21 percent. Through the aforementioned recommendation data trend could be established.

Additionally, the colleges with significantly increased graduation rates could be surveyed to further understand the kinds of retention programs, processes, and practices were utilized. This a way that the research can be expanded to include more colleges and extend the depth of understanding relative to student success.

It is further recommended that this study be repeated with data points that are emerging at the institutional level as well as regional and independent research initiatives that aim to understand student retention though to graduation. This could also invite studies and data sets that are being employed by UNESCO, TVET, etc. external to the United States.

In an effort to meet the challenges confronting educators today, recruitment, retention and persistence through to graduation programs needs to be devised while keeping in the forefront the students behind the mission of the institution. Core elements of the future planning will be needs-based on the creation of a smarter student-focused campus (Bailey et al., 2015; Kuh et al., 2011; Norris, Brodnick, & Lefrere, 2013). Innovative leadership must guide higher education to use new models, methods, analytics, and technology to foster process transformation, create innovative and responsive programs and curriculum. They should deploy digital instructional tools, and drive efficiencies in administration and operations to shift funds to learning activities. To provide predictable outcomes for student achievement, enrollment staff will need to work with retention staff, academic coaches must collaborate with faculty, and all levels of hierarchy need to ostensively communicate.

To college presidents, this means casting a vision based on an institution’s current and expected performance that can be securely communicated across campus to staff and educational providers to give faculty and leaders a full view of strategic initiatives. Planning and funding are needed to investigate practice, implement change, and produce results.

To Student Services leadership, retention staff and academic coaches this means having the frontline responsibility of reaching the student and being available even before the student flounders or leaves. Hiring and staffing are vital components as these are the foot soldiers for their organizations. With the shared understanding that for progress to occur in the form of graduation rate increases that changes, though at times difficult, are required to get new results.

To faculty at every level, this recommends adaptation on multiple levels will open up new ways of teaching and collaborating. Professional development may be expanded to the area of student success strategies particularly techniques utilized in classrooms to stimulate and advance student engagement. The educational experiences of students will likely face a redesign that will include processes and supports aimed to foster success, like learning communities and curriculum pathways. This will take time, creativity, and dedication to accomplish. There is a high likelihood that future goal attainment will link faculty outcomes to student outcomes. Faculty members are the solution to student learning, so the association may be made that as colleges help faculty members succeed, they are helping students succeed.

Summary

For a student-focused culture to be truly effective it demands that faculty and staff care preeminently about student success through to graduation. This requires a shift in campus culture and there is support, since the U.S. has a substantial investment in public two-year colleges, $67 billion spent in 2014-2015 according to NCES (2016). The global higher education rate (Figure 2) places the United States as nineteenth, with a documented low college completion rate of 20 percent for public two-year colleges there is need to move in a positive direction (NCES, 2016). When stakeholders, faculty, staff, administration, and leadership design the programs, processes, and practices which guide student success they will support and guide positive retention and graduation outcomes (Mezirow, 1991). Promising practices are not something you do on Wednesday afternoons. They are what needs to happen in the hallways, at department meetings, and at faculty meetings. The focus on constantly improving student success is what happens every day. Upon its future review, it may be that maintaining focus on student success will be seen as pivotal when considering the economic value brought by graduates who contribute to their workplaces and communities. Much of which can be attributed to the advantages made possible by their postsecondary accomplishments.

References

Bailey, T., Jaggars, S. S., & Jenkins, D. (2015). *Redesigning America's community colleges: A clearer path to student success.* Cambridge, MA: Harvard University Press.

Barlow, M. (1976). 200 years of vocational education 1776-1976. *Vocational Journal, 51*(5), 21-28.

Barton, P. E. (2008). How many college graduates does the US labor force really need? *Change: The Magazine of Higher Learning*, *40*(1), 16-21. doi: 10.3200/CHNG.40.1.16-21

Berardi, V., & Blundell, G. (2011). Considerations for integrating and sustaining experiential learning and a capstone experience. Proceedings from *Information Systems Educators Conference 2011 ISECON,* Wilmington, NC: Foundation for IT Education. Retrieved from https://pdfs.semanticscholar.org/ed7e/267cfa6f480fc447b81c88a331c11d4ca641.pdf

Bettinger, E., & Baker, R. (2011). The effects of student coaching in college: An evaluation of a randomized experiment in student mentoring. *Educational Evaluation & Policy Analysis*, *36*(1), 3-20. doi:10.3102/0162373713500523

Brock, T. (2010). Young adults and higher education: Barriers and breakthroughs to success. *Future of Children, 20*(1)*, 109-132. Retrieved from http://www.jstor.org/stable/27795062*

Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant.* New York, NY: W.W. Norton & Company.

Burns, A. C., & Harrison, M. C. (1979). A test of the reliability of psychographics. *Journal of Marketing Research, 16*(1), 32-38. doi: 10.2307/3150871

Burns, K. (2010). At issue: Community college student success variables: A review of the literature. *The Community College Enterprise, 16*(2), 33. Retrieved from EBSCOhost Accession No. 55415582.

Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, *56*(2), 81. doi:\10.1037/h0046016

Carnevale, A. P., & Desrochers, D. M. (2002). The missing middle: Aligning education and the knowledge economy. *Journal for Vocational Special Needs Education*, *25*(1), 3-23. Retrieved from http://files.eric.ed.gov/fulltext/ED465092.pdf

Carnevale, A. P., Smith, N., & Strohl, J. (2013). The road to recovery: Job growth and education requirements through 2020. *Community College Journal*, *84*(3), 27-29. Retrieved from https://repository.library.georgetown.edu/bitstream/handle/10822/559311/Recovery2020.FR.Web.pdf?sequence=1&isAllowed=y

Center for Community College Student Engagement (CCCSE). (2012). *A matter of degrees: Promising practices for community college student success (a first look).* Austin, TX: The University of Texas at Austin, Community College Leadership Program.

Cohen, A. M., Brawer, F. B., & Kisker, C. B. (2014). *The American community college* (6th ed.). Hoboken, NJ: John Wiley & Sons.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage.

Crisp, G. (2016). Promising practices and programs: Current efforts and future directions. *New Directions for Community Colleges, 2016*(175), 103-110. doi:10.1002/cc.20216

Crisp, G., & Hatch, D. K. (2016). Editor's notes. *New Directions for Community Colleges, 2016*(175), 4-8. doi: 10.1002/cc.20207

Dewey, J. (1916). *Democracy and education: An introduction to philosophy of education*. New York, NY: Macmillan.

Dewey, J. (1938). *Experience and education*. Bloomington, IN: Kappa Delta Pi.

Dohm, A., & Shniper, L. (2007). Occupational employment projection to 2016. *Monthly Labor Review*, *130*(11), 86-125. Retrieved from EBSCOhost Accession No. 28772460.

Dougherty, K., & Reddy, V. (2013). *J-B ASHE Higher Education Report Series (AEHE): Performance Funding for Higher Education: What Are the Mechanisms? What Are the Impacts?* Hoboken, NJ: John Wiley & Sons.

Dougherty, K. J., Reid, M., & Nienhusser, H. K. (2006). *State policies to achieve the dream in five states: An audit of state policies to aid student access to and success in community colleges in the first five achieving the dream states.* New York, NY: Community College Research Center, Columbia University.

Dunek, L. (2015). *The future of American public higher education: Examining perspectives of university presidents on the determinative change variables that they believe are reshaping the social contract between higher education and American society in the 21st century* (Doctoral dissertation). Retrieved from ProQuest Order No. 3708761.

Eggen, P., & Kauchak, D. P. (2015). *Educational psychology: Windows on classrooms* (10th ed.). Boston, MA: Pearson.

Freire, P. (1970). *Pedagogy of the oppressed.* New York, NY: Seabury Press.

Frye, J. H. (1992). *The vision of the public junior college, 1900-1940: Professional goals and popular aspirations. Contributions to the Study of Education, (51).* Westport, CT: Greenwood Publishing Group.

Giorgi, A. (1997). The theory, practice, and evolution of the phenomenological method as a qualitative research procedure. *Journal of Phenomenological Psychology, 28*(2), 235-260. doi: 10.1163/156916297X00103

Goldin, C., & Katz, L. F. (2008). *The race between education and technology*. Cambridge, MA: Belknap Press of Harvard University Press.

Gordon, E. E. (2013). *Future jobs: Solving the employment and skills crisis.* Santa Barbara, CA: Praeger.

Gordon, H. R. D. (2014). *The history and growth of career and technical education in America* (4th ed.). Long Grove, IL: Waveland Press, Inc.

Gray, K. C., & Herr, E. L. (2006). *Other ways to win: Creating alternatives for high school graduates* (3rd ed.). Thousand Oaks, CA: Corwin Press.

Groenewald, T. (2004). A phenomenological research design illustrated. *International Journal of Qualitative Methods, 3*(1), 42-55. doi: 10.1177/160940690400300104

Hall, B. H., & Marsh, R. J. (2003). *Legal issues in career and technical education*. Homewood, IL: American Technical Publishers, Inc.

Haltinner, U. R. (2008). *Achieving consensus on secondary marketing education curriculum and instruction--A Delphi study* (Doctoral dissertation). Retrieved from ProQuest Order No. 3313443.

Hayward, G. C., & Benson, C. S. (1993). *Vocational-technical education: Major reforms and debates 1917-present.* Washington, DC: U.S. Department of Education, Office of Vocational and Adult Education. (ERIC Document Reproduction Service No. ED 369 959).

Herman, A. M. (1999). *Futurework: Trends and challenges for work in the 21st century*. Washington, DC: US Department of Labor.

Herrnstein, R., & Murray, C. A. (1994). *The bell curve: Intelligence and class structure in American life*. New York: Simon and Schuster.

Höckel, K. (2012). Bridging the gulf between the world of work and the world of learning: Vocational education and training in comparative perspective. In M. Pilz, (Ed.) *The future of vocational education and training in a changing world* (pp. 537-560). Dordrecht, Netherlands: Springer.

Horn, L., Kojaku, L. K., & Carroll, C. D. (2001). High school academic curriculum and the persistence path through college (NCES 2001–163). U.S. Department of Education. National Center for Education Statistics. Washington, DC: US Government Printing Office.

Hurtado, S., Alvarez, C. L., Guillermo-Wann, C., Cuellar, M., & Arellano, L. (2012). A model for diverse learning environments. In *Higher education: Handbook of theory and research* (pp. 41-122). Netherlands: Springer.

Juszkiewicz, J. (2016, March). *Trends in community college enrollment and completion data.* Washington, DC: American Association of Community Colleges.

Kanter, M. J. (2011). American higher education: "First in the world". *Change: The Magazine of Higher Learning*, *43*(3), 7-19. doi: 10.1080/00091383.2011.568896

Karp, M. M. (2016). A holistic conception of nonacademic support: How four mechanisms combine to encourage positive student outcomes in the community college. *New Directions for Community Colleges*, *2016*(175), 33-44. doi: 10.1002/cc.20210

Kegan, R. (1982). *The evolving self*. Cambridge, MA: Harvard University Press.

Kegan, R., & Lahey, L. L. (2001). *How the way we talk can change the way we work: Seven languages for transformation*. Hoboken, NJ: John Wiley & Sons.

Kelly, A. P., & Schneider, M. (2012). *Getting to graduation: The completion agenda in higher education*. Baltimore, MD: Johns Hopkins University Press.

Kena, G., Musu-Gillette, L., Robinson, J., Wang, X., Rathbun, A., Zhang, J., Wilkinson-Flicker, S., Barmer, A., & Dunlop Velez, E. (2015). *The condition of education 2015* (NCES 2015-144). Retrieved from http://nces.ed.gov/pubsearch.

Kilgo, C. A., Sheets, J. K. E., & Pascarella, E. T. (2015). The link between high-impact practices and student learning: Some longitudinal evidence. *Higher Education, 69*(4), 509-525. doi:10.1007/s10734-014-9788-z

Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development.* Englewood Cliffs, NJ: Prentice-Hall.

Kuh, G. D., Kinzie, J., Schuh, J. H., & Whitt, E. J. (2011). *Student success in college: Creating conditions that matter*. Hoboken, NJ: John Wiley & Sons.

Kyllonen, P. C. (2013). Soft skills for the workplace. *Change: The Magazine of Higher Learning*, *45*(6), 16-23. doi:10.1080/00091383.2013.841516

Labi, A. (2015). Placing student success at the center of state higher education finance policy. *Lumina Issue Papers*. Indianapolis, IN: Lumina Foundation for Education. Retrieved from https://www.luminafoundation.org/files/resources/labi-student-success-at-the-center.pdf

Lichtman, M. (2013). *Qualitative research in education: A user's guide* (3rd ed.). Thousand Oaks, CA: Sage.

Lucas, C. (2006). *American higher education: A history* (2nd ed.). New York, NY: Palgrave Macmillan.

Matthews, D. (2012). *A stronger nation through higher education: How and why Americans must achieve a big goal for college attainment. A special report from Lumina Foundation.* Indianapolis, IN: Lumina Foundation for Education.

McDavid, J. C., & Hawthorn, L. R. (2006). *Program evaluation & performance measurement: An introduction to practice*. Thousand Oaks, CA: Sage.

McNergney, R. F., & Herbert, J. M. (2001). *Foundations of education: The challenge of professional practice* (3rd ed.). Needham Heights MA: Allen & Bacon.

Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco, CA: Jossey-Bass.

Miles, M. B., & Huberman, M. A. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: Sage.

Miller, R. (1999). The future of the global economy: Towards a long boom? Organisation for Economic Cooperation and Development. *The OECD Observer*, (217/218), 55-58. Retrieved from ProQuest Order No. 01886805, 04444625.

National Center for Education Statistics (NCES). (2016). *Integrated postsecondary education data system (IPEDS), fall 2002 and spring 2007 through spring 2015, graduation rates component; and IPEDS fall 2008, institutional characteristics component.* Retrieved from https://nces.ed.gov/programs/coe/indicator_ctr.asp and https://nces.ed.gov/programs/digest/d16/tables/dt16_326.20.asp

Norris, D., Brodnick, R., & Lefrere, P. (2013). *Transforming in an age of disruptive change*. Ann Arbor, MI: Society for College and University Planning.

O'Banion, T. (2016) A brief history of general education. *Community College Journal of Research and Practice*, *40*(4), 327-334. doi:10.1080/10668926.2015.1117996

Organization for Economic and Development (OECD). (2014). *Education at a glance 2014: OECD indicators*. Paris, France: Retrieved from http://dx.doi.org/10.1787/eag-2014-en

Parnell, D. (1985). *The neglected majority*. Washington, DC: American Association of Community Colleges.

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research* (2nd ed.). San Francisco, CA: Josey-Bass.

Patten, M. L. (2009). *Understanding research methods: An overview of essentials*. Glendale, CA: Pyrczak.

Phillippe, K. A., & Sullivan, L. G. (2005). *National profile of community colleges: Trends & statistics*. Washington, DC: American Association of Community Colleges.

Porter, M. E. (2011). *Competitive advantage of nations: Creating and sustaining superior performance*. New York, NY: Simon and Schuster.

Price, D. V., & Tovar, E. (2014). Student engagement and institutional graduation rates: Identifying high-impact educational practices for community colleges. *Community College Journal of Research and Practice*, *38*(9), 766-782. doi:10.1080/10668926.2012.719481

Provasnik, S., & Planty, M. (2008). *Community colleges: Special supplement to the condition of education 2008 (NCES 2008-033).* Institute of Education Sciences, U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved from http://files.eric.ed.gov/fulltext/ED502349.pdf

Rojewski, J. W., & Hill, R. B. (2014). Positioning research and practice in career and technical education: A framework for college and career preparation in the 21st century. *Career and Technical Education Research, 39*(2), 137-150. doi: 10.5328/cter39.2.137

Ross, T., Kena, G., Rathbun, A., KewalRamani, A., Zhang, J., Kristapovich, P., & Manning, E. (2012). *Higher education: Gaps in access and persistence study. Statistical Analysis Report. NCES 2012-046.* Retrieved from https://ies.ed.gov/pubsearch/pubsinfo.asp?pubid=2012046

Scott, J. L., & Sarkees-Wircenski, M. (2008). *Overview of career and technical education* (4th ed.). Orland Park, IL: American Technical Publishers.

Shepard, L. (2000). The role of assessment in a learning culture. *Educational Researcher, 29*(7). 4-14. doi:10.3102/0013189X029007004

Snyder, T. D., & Dillow, S. A. (2013). *Digest of education statistics 2012 (NCES 2014-015).* Retrieved from https://nces.ed.gov/pubs2014/2014015.pdf

Strother, S., Grunow, A., & Van Campen, J. (2013). *Community college pathways: 2011-2012 descriptive report*. Stanford, CA: Carnegie Foundation for the Advancement of Teaching.

Terrell, S. R. (2012). *Statistics translated: A step-by-step guide to analyzing and interpreting data.* New York, NY: Guilford Press.

Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & health sciences*. *15*(3), 398-405. doi:10.1111/nhs.12048

Van Manen, M. (1997). *Researching lived experience.* Ontario, Canada: University of Western Ontario.

Vincent-Lancrin, S. (2008). What is the impact of demography on higher education systems? A forward-looking approach for OECD countries. *Higher Education To 2030 – Volume 1: Demography, 1*, 41-103. doi: 10.1787/9789264040687-fr

Wiersma, W., & Jurs, S. G. (2009). *Research methods in education: An introduction*. Boston, MA: Pearson/Allyn and Bacon.

Wonacott, M. E. (2003). *History and evolution of vocational and career-technical education: A compilation* [ED 482359]. Columbus, OH: Center for Education and Training for Employment. Retrieved from http://files.eric.ed.gov/fulltext/ED482359.pdf

Appendix A: Figure of Six Year College Outcomes

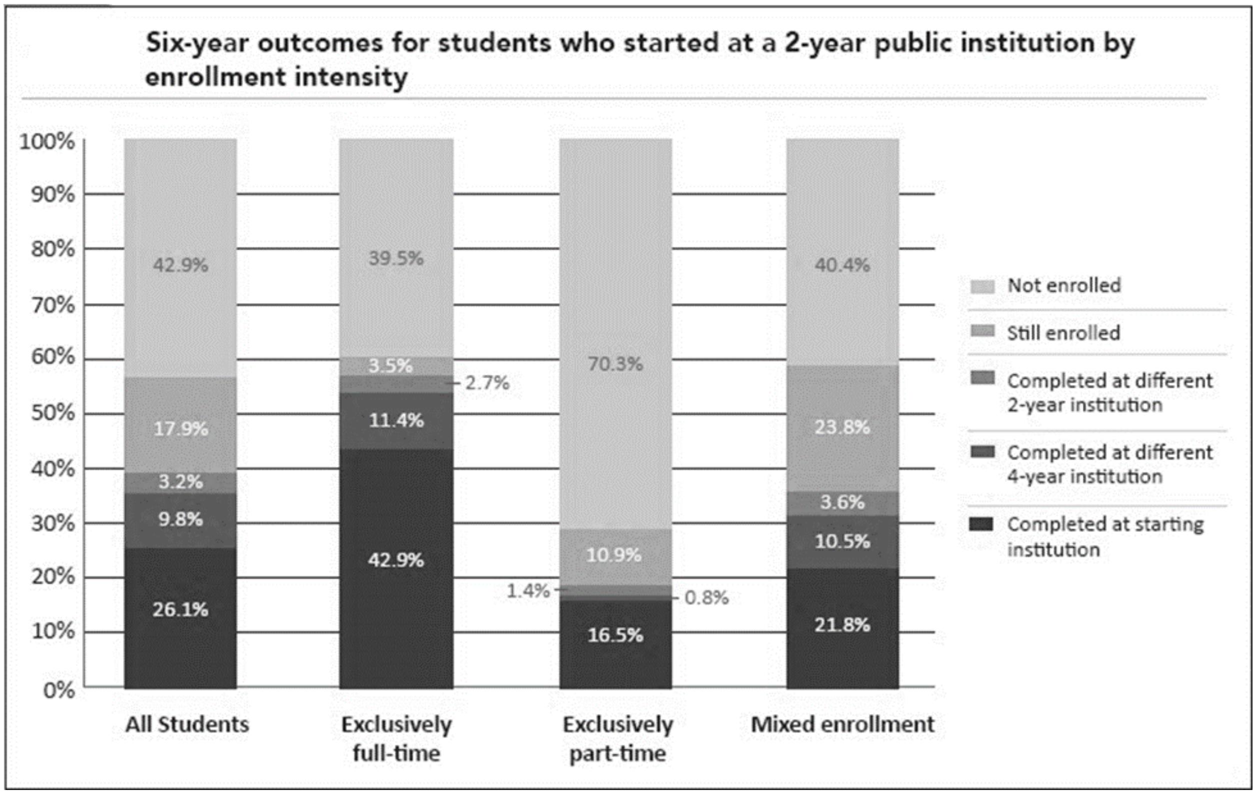


Figure of Six Year College Outcomes, Center for Community College Student Engagement (CCCSE, 2012).

Appendix B: Promising Practices Survey

Promising Practices Research Survey

Introduction

This brief seven question survey is provided solely to collect data for the doctoral dissertation *The Effects of Promising Practices on Graduation Rates of Public Two-year Community and Technical Colleges*. No data nor identities will be disseminated without permission; all responses will remain confidential. Please, feel free to contact me with any questions schieldp3227@my.uwstout.edu. Thank you, your participation is appreciated.

Pamela Schield

UW-Stout Informed Consent Form for Research

Overview: As a doctoral candidate in the University of Wisconsin – Stout in the Career and Technical Education Ed.D. program, I am asking for you to participate in a study focused on student success and graduation rates. Specifically, a dissertation titled The Effects of Promising Practices on Graduation Rates of Public Two-year Colleges. Please, contact me or Urs Haltinner, my advisor, with any questions.

Advisor: Dr. Urs Haltinner, 715-232-1493, haltinnerU@uwstout.edu

Investigator: Pamela Schield, 715-550-3802, Schieldp3227@my.uwstout.edu
Description: The intent of this study seeks to identify current practices contributing to positive graduation rates at the highest-performing public two-year community colleges and technical colleges.

Risks and Benefits:
Risks associated with this study are limited due to the academic and theoretical nature of the research. Risks are minimized by the ability of participants to opt out of the Qualtrics survey and to opt out of the semi-structured interview. Participants will not benefit directly from the study; the general benefits intended are the dissemination of promising practices in order to provide public, two-year college students the best opportunity for success.

Time Commitment and Payment:
The time commitment of subjects of the study is 30 minutes to complete the survey and the follow-up interview. The total time of participation in the research is estimated to be under one hour. Participants will receive no compensation for their participation.

Confidentiality:
Your name will not be included on any documents. We will not disclose any individual's identity without their expressed consent, identify records will be stored separate from gathered data. This informed consent will not be kept with any of the other documents completed with this project.

Right to Withdraw:
Your participation in this study is entirely voluntary. You may choose not to participate without any adverse consequence. Should you choose to participate and later wish to withdraw from the study, you may discontinue your participation without incurring adverse consequences.

IRB Approval:
This study has been reviewed and approved by The University of Wisconsin-Stout's Institutional Review Board (IRB). The IRB has determined that this study meets the ethical obligations required by federal law and University policies. If you have questions or concerns regarding this study, please contact the Investigator or Advisor. If you have any questions, concerns, or reports regarding your rights as a research subject, please contact the IRB Administrator.

Investigator: Pamela Schield, 715-550-3802
N2236 Crane Drive
Medford, WI 54451
schieldp3227@my.uwstout.edu

Advisor: Urs Haltinner, Ph.D., 715-232-1493
Professor in the School of Education
University of Wisconsin-Stout
Communications Technology Bldg., Rm 225A
712 South Broadway
Menomonie, Wisconsin 54751
haltinnerU@uwstout.edu IRB Administrator

IRB Administrator: Elizabeth Buchanan
Office of Research and Sponsored Programs
152 Vocational Rehabilitation Bldg.
UW-Stout
Menomonie, WI 54751
715.232.2477

Buchanane@uwstout.edu

Statement of Consent:
By indicating your consent below, you agree to participate in the project entitled The Effects of Promising Practices on Graduation Rates of Public Two-year Colleges.

I consent to participate   I decline participation

Survey Questions

Please, rank the following practices for your perception of their impact on the graduation rate at your institution over the past 5 years? (from 1 to 6, with 1 being greatest impact)

- [ ] First-year Student Seminar (freshmen experience program)
- [ ] Cohort Model
- [ ] Supplemental Instruction (Intervention Lab)
- [ ] Advising and Coaching
- [ ] On-campus Housing
- [ ] Other ____________

Rate the effect that a first-year experience course had on improving your college's graduation rate

high   medium   low   very low   none at all

Rate the effect that a cohort model had on improving your college's graduation rate

high   medium   low   very low   none at all

Rate the effect that supplemental instruction had on improving your college's graduation rate

high   medium   low   very low   none at all

Rate the effect that advising and coaching had on improving your college's graduation rate

high   medium   low   very low   none at all

Rate the effect that on-campus housing had on improving your college's graduation rate

high   medium   low   very low   none at all

Thank you for completing the Promising Practices Research Survey.
Please, indicate whether you will participate in phase 2, an interview, by indicating your choice

YES, I opt to participate in phase 2 of Promising Practices Research consisting of one scheduled telephone interview.

NO, I opt out of phase 2 of Promising Practices Research, and conclude this survey.

Enter the best phone number for follow-up.

Your participation in this research project is appreciated. The investigator would like to follow-up with a brief telephone interview to discuss the significance of one practice at your institution which has contributed to the success of students over the preceding five years.

Please, indicate a date and time in the upcoming two weeks when this brief interview will be most convenient.

Appendix C: Completed Promising Practices Surveys

UW-Stout
Menomonie, WI 54751
715.232.2477
Buchanane@uwstout.edu

Statement of Consent:
By indicating your consent below, you agree to participate in the project entitled The Effects of Promising Practices on Graduation Rates of Public Two-year Colleges.

I consent to participate	I decline participation
(•)	( )

Q3. **Please, rank the following practices for your perception of their impact on the graduation rate at your institution over the past 5 years? (from 1 to 6, with 1 being greatest impact)**

Rank	Practice
4	First-year Student Seminar (freshmen experience program)
3	Cohort Model
2	Supplemental Instruction (Intervention Lab)
1	Advising and Coaching
	On-campus Housing
	Other

Q4.
Rate the effect that a first-year experience course had on improving your college's graduation rate

high	medium	low	very low	none at all
( )	( )	(•)	( )	( )

Q5.
Rate the effect that a cohort model had on improving your college's graduation rate

high	medium	low	very low	none at all
( )	( )	(•)	( )	( )

Q6.
Rate the effect that supplemental instruction had on improving your college's graduation rate

high	medium	low	very low	none at all
( )	(•)	( )	( )	( )

Q7.
Rate the effect that advising and coaching had on improving your college's graduation rate

high	medium	low	very low	none at all
( )	(•)	( )	( )	( )

Q8.
Rate the effect that on-campus housing had on improving your college's graduation rate

high	medium	low	very low	none at all
( )	( )	( )	( )	(•)

Q9. Thank you for completing the Promising Practices Research Survey.

UW-Stout
Menomonie, WI 54751
715.232.2477
Buchanane@uwstout.edu

Statement of Consent:
By indicating your consent below, you agree to participate in the project entitled The Effects of Promising Practices on Graduation Rates of Public Two-year Colleges.

I consent to participate	I decline participation
(•)	( )

Q3. Please, rank the following practices for your perception of their impact on the graduation rate at your institution over the past 5 years? (from 1 to 6, with 1 being greatest impact)

- [2] First-year Student Seminar (freshmen experience program)
- [5] Cohort Model
- [4] Supplemental Instruction (Intervention Lab)
- [1] Advising and Coaching
- [6] On-campus Housing
- [3] Other [Engagement Opportunities Built By Students for Students]

Q4.
Rate the effect that a first-year experience course had on improving your college's graduation rate

high	medium	low	very low	none at all
(•)	( )	( )	( )	( )

Q5.
Rate the effect that a cohort model had on improving your college's graduation rate

high	medium	low	very low	none at all
( )	(•)	( )	( )	( )

Q6.
Rate the effect that supplemental instruction had on improving your college's graduation rate

high	medium	low	very low	none at all
( )	(•)	( )	( )	( )

Q7.
Rate the effect that advising and coaching had on improving your college's graduation rate

high	medium	low	very low	none at all
(•)	( )	( )	( )	( )

Q8.
Rate the effect that on-campus housing had on improving your college's graduation rate

high	medium	low	very low	none at all
( )	( )	(•)	( )	( )

UW-Stout
Menomonie, WI 54751
715.232.2477
Buchananw@uwstout.edu

Statement of Consent:
By indicating your consent below, you agree to participate in the project entitled The Effects of Promising Practices on Graduation Rates of Public Two-year Colleges.

I consent to participate	I decline participation
◉	○

Q3. Please, rank the following practices for your perception of their impact on the graduation rate at your institution over the past 5 years? (from 1 to 6, with 1 being greatest impact)

- [3] First-year Student Seminar (freshman experience program)
- [4] Cohort Model
- [2] Supplemental Instruction (Intervention Lab)
- [1] Advising and Coaching
- [5] On-campus Housing
- [ ] Other: ____________

Q4.
Rate the effect that a first-year experience course had on improving your college's graduation rate

high	medium	low	very low	none at all
○	○	◉	○	○

Q5.
Rate the effect that a cohort model had on improving your college's graduation rate

high	medium	low	very low	none at all
○	○	◉	○	○

Q6.
Rate the effect that supplemental instruction had on improving your college's graduation rate

high	medium	low	very low	none at all
○	◉	○	○	○

Q7.
Rate the effect that advising and coaching had on improving your college's graduation rate

high	medium	low	very low	none at all
◉	○	○	○	○

Q8.
Rate the effect that on-campus housing had on improving your college's graduation rate

high	medium	low	very low	none at all
○	○	○	○	◉

UW-Stout
Menomonie, WI 54751
715.232.2477
Buchananv@uwstout.edu

Statement of Consent:
By indicating your consent below, you agree to participate in the project entitled The Effects of Promising Practices on Graduation Rates of Public Two-year Colleges.

I consent to participate **I decline participation**

Q3. Please, rank the following practices for your perception of their impact on the graduation rate at your institution over the past 5 years? (from 1 to 6, with 1 being greatest impact)

- 2 First-year Student Seminar (freshman experience program)
- Cohort Model
- 3 Supplemental Instruction (intervention Lab)
- 1 Advising and Coaching
- On-campus Housing
- Other

Q4.
Rate the effect that a first-year experience course had on improving your college's graduation rate

high **medium** **low** **very low** **none at all**

Q5.
Rate the effect that a cohort model had on improving your college's graduation rate

high **medium** **low** **very low** **none at all**

Q6.
Rate the effect that supplemental instruction had on improving your college's graduation rate

high **medium** **low** **very low** **none at all**

Q7.
Rate the effect that advising and coaching had on improving your college's graduation rate

high **medium** **low** **very low** **none at all**

Q8.
Rate the effect that on-campus housing had on improving your college's graduation rate

high **medium** **low** **very low** **none at all**

Q9. Thank you for completing the Promising Practices Research Survey.

UW-Stout
Menomonie, WI 54751
715.232.2477
Buchananw@uwstout.edu

Statement of Consent:
By indicating your consent below, you agree to participate in the project entitled The Effects of Promising Practices on Graduation Rates of Public Two-year Colleges.

I consent to participate	I decline participation
●	○

Q3. Please, rank the following practices for your perception of their impact on the graduation rate at your institution over the past 5 years? (from 1 to 6, with 1 being greatest impact)

- [2] First-year Student Seminar (freshman experience program)
- [5] Cohort Model
- [3] Supplemental Instruction (Intervention Lab)
- [1] Advising and Coaching
- [6] On-campus Housing
- [4] Other: Small class size

Q4.
Rate the effect that a first-year experience course had on improving your college's graduation rate

high	medium	low	very low	none at all
○	●	○	○	○

Q5.
Rate the effect that a cohort model had on improving your college's graduation rate

high	medium	low	very low	none at all
○	○	○	●	○

Q6.
Rate the effect that supplemental instruction had on improving your college's graduation rate

high	medium	low	very low	none at all
○	●	○	○	○

Q7.
Rate the effect that advising and coaching had on improving your college's graduation rate

high	medium	low	very low	none at all
●	○	○	○	○

Q8.
Rate the effect that on-campus housing had on improving your college's graduation rate

high	medium	low	very low	none at all
○	○	○	○	●

UW-Stout
Menomonie, WI 54751
715.232.2477
Buchananw@uwstout.edu

Statement of Consent:
By indicating your consent below, you agree to participate in the project entitled The Effects of Promising Practices on Graduation Rates of Public Two-year Colleges.

I consent to participate   I decline participation

Q3. Please, rank the following practices for your perception of their impact on the graduation rate at your institution over the past 5 years? (from 1 to 6, with 1 being greatest impact)

2	First-year Student Seminar (freshman experience program)
4	Cohort Model
3	Supplemental Instruction (Intervention Lab)
1	Advising and Coaching
5	On-campus Housing
6	Other:

Q4.
Rate the effect that a first-year experience course had on improving your college's graduation rate

high   medium   low   very low   none at all

Q5.
Rate the effect that a cohort model had on improving your college's graduation rate

high   medium   low   very low   none at all

Q6.
Rate the effect that supplemental instruction had on improving your college's graduation rate

high   medium   low   very low   none at all

Q7.
Rate the effect that advising and coaching had on improving your college's graduation rate

high   medium   low   very low   none at all

Q8.
Rate the effect that on-campus housing had on improving your college's graduation rate

high   medium   low   very low   none at all

UW-Stout
Menomonie, WI 54751
715.232.2477
Buchananw@uwstout.edu

Statement of Consent:
By indicating your consent below, you agree to participate in the project entitled The Effects of Promising Practices on Graduation Rates of Public Two-year Colleges.

I consent to participate	I decline participation
◉	○

Q3. Please, rank the following practices for your perception of their impact on the graduation rate at your institution over the past 5 years? (from 1 to 6, with 1 being greatest impact)

- [3] First-year Student Seminar (freshman experience program)
- [4] Cohort Model
- [2] Supplemental Instruction (Intervention Lab)
- [1] Advising and Coaching
- [ ] On-campus Housing
- [ ] Other ______

Q4.
Rate the effect that a first-year experience course had on improving your college's graduation rate

high	medium	low	very low	none at all
○	◉	○	○	○

Q5.
Rate the effect that a cohort model had on improving your college's graduation rate

high	medium	low	very low	none at all
○	○	◉	○	○

Q6.
Rate the effect that supplemental instruction had on improving your college's graduation rate

high	medium	low	very low	none at all
○	◉	○	○	○

Q7.
Rate the effect that advising and coaching had on improving your college's graduation rate

high	medium	low	very low	none at all
◉	○	○	○	○

Q8.
Rate the effect that on-campus housing had on improving your college's graduation rate

high	medium	low	very low	none at all
○	○	○	○	◉

Q9. Thank you for completing the Promising Practices Research Survey.

UW-Stout
Menomonie, WI 54751
715.232.2477
Buchananw@uwstout.edu

Statement of Consent:
By indicating your consent below, you agree to participate in the project entitled The Effects of Promising Practices on Graduation Rates of Public Two-year Colleges.

I consent to participate	I decline participation

Q3. Please, rank the following practices for your perception of their impact on the graduation rate at your institution over the past 5 years? (from 1 to 6, with 1 being greatest impact)

3	First-year Student Seminar (freshman experience program)
4	Cohort Model
2	Supplemental Instruction (Intervention Lab)
1	Advising and Coaching
5	On-campus Housing
	Other

Q4.
Rate the effect that a first-year experience course had on improving your college's graduation rate

high	medium	low	very low	none at all

Q5.
Rate the effect that a cohort model had on improving your college's graduation rate

high	medium	low	very low	none at all

Q6.
Rate the effect that supplemental instruction had on improving your college's graduation rate

high	medium	low	very low	none at all

Q7.
Rate the effect that advising and coaching had on improving your college's graduation rate

high	medium	low	very low	none at all

Q8.
Rate the effect that on-campus housing had on improving your college's graduation rate

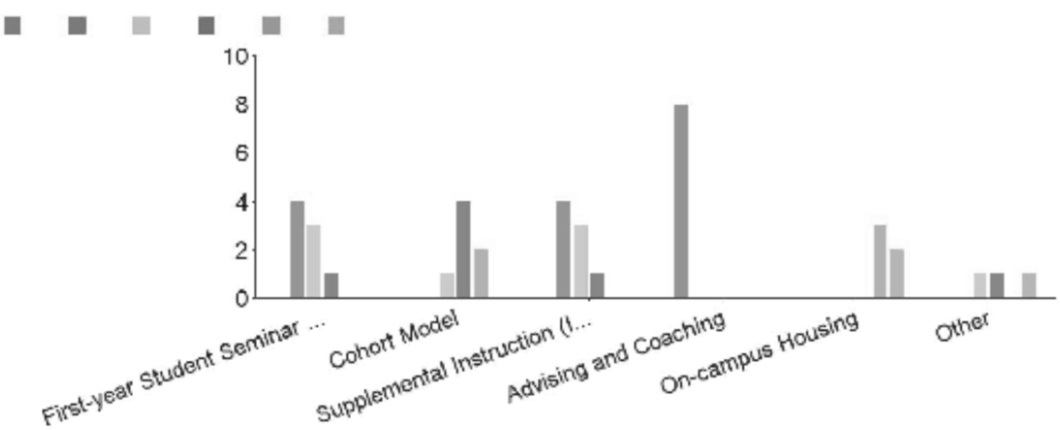
high	medium	low	very low	none at all

Appendix D: Promising Practices Survey Summary Report

Please, rank the following practices for your perception of their impact on the graduation rate at your institution over the past 5 years? (from 1 to 6, with 1 being greatest impact)

#	Answer	Rank1	Rank2	Rank3	Rank4	Rank5	Rank6	Responses	Mean
1	First-year Student Seminar (freshmen experience program)	0	4	3	1	0	0	8	2.63
2	Cohort Model	0	0	1	4	2	0	7	4.14
3	Supplemental Instruction (Intervention Lab)	0	4	3	1	0	0	8	2.63
4	Advising and Coaching	8	0	0	0	0	0	8	1.00
5	On-campus Housing	0	0	0	0	3	2	5	5.40
6	Other	0	0	1	1	0	1	3	4.33
	Total	8	8	8	7	5	3	-	-

Other
Small class sizes
Engagement Opportunities Built By Students for Students



Rate the effect that a first-year experience course had on improving your college's graduation rate

#	Answer	Bar	Response	%
1	high		1	12.50%
2	medium		5	62.50%
3	low		2	25.00%
4	very low		0	0.00%
5	none at all		0	0.00%
	Total		8	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	2.13	0.41	0.64	8	8

Rate the effect that a first-year experience course had on improving your college's graduation rate

#	Answer	Bar	Response	%
1	high		1	12.50%
2	medium		5	62.50%
3	low		2	25.00%
4	very low		0	0.00%
5	none at all		0	0.00%
	Total		8	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	2.13	0.41	0.64	8	8

Rate the effect that supplemental instruction had on improving your college's graduation rate

#	Answer	Bar	Response	%
1	high		0	0.00%
2	medium		8	100.00%
3	low		0	0.00%
4	very low		0	0.00%
5	none at all		0	0.00%
	Total		8	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
2	2	2.00	0.00	0.00	8	8

Rate the effect that advising and coaching had on improving your college's graduation rate

#	Answer	Bar	Response	%
1	high		7	87.50%
2	medium		1	12.50%
3	low		0	0.00%
4	very low		0	0.00%
5	none at all		0	0.00%
	Total		8	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	2	1.13	0.13	0.35	8	8

Rate the effect that on-campus housing had on improving your college's graduation rate

#	Answer	Bar	Response	%
1	high		0	0.00%
2	medium		0	0.00%
3	low		1	12.50%
4	very low		1	12.50%
5	none at all		6	75.00%
	Total		8	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
3	5	4.63	0.55	0.74	8	8

Thank you for completing the Promising Practices Research Survey.
Please, indicate whether you will participate in phase 2, an interview, by indicating your choice

#	Answer	Bar	Response	%
1	YES, I opt to participate in phase 2 of Promising Practices Research consisting of one scheduled telephone interview.		4	50.00%
2	NO, I opt out of phase 2 of Promising Practices Research, and conclude this survey		4	50.00%
	Total		8	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	2	1.50	0.29	0.53	8	8

Appendix E: Thematic Analysis Excerpt

Robin (pseudonym) six years as Vice President, Student Services, 10 years at a large suburban CA college 56 % graduation rate and 16.7% increase

Robin:	I would say some of the strategies that you've seen that have gone into place are based on a couple of things. We have added within our counseling, we use SARS like everybody else does, which is how students make a counseling appointment.	The strategies that have gone into place are based on a couple of things. ~~We have added within~~ our counseling, we use SARS ~~like everybody else does,~~ which is how students make a counseling appointment. [SARS is a software product that includes messaging, tracking, resource planning, and retention processes.]	The strategies that have gone into place are based on a couple of things. Our counseling, we use SARS which is how students make a counseling appointment. [SARS is a software product that includes messaging, tracking, resource planning, and retention processes.] A student can set up an appointment that is either a chat, by phone, or Zoom, which has become incredibly popular. We have set it up so we can share screens, so the student can see everything as though they are in the office. **This has increased our participation in appointments, and decreased significantly the no-shows.** Because a student, whether they are at work on lunchbreak, or home babysitting, they can get online and meet with their counselor with Zoom. **That has been huge for us** to add this capability. Our college conference contracted with Zoom, so the service is free for us and for our students. A student can just go in and click the link that they have a Zoom appointment with mem at 4:00 in the afternoon, and they come online and my computer will say, "Your appointment is here." We have document cameras for our	Well-leveraged technologies (Zoom, SARS NetTutor, EDUNAV) Strategic hiring (evaluations department & grad assistant academic coaches, peer tutors) Seeing (hearing/ recognizing) and responding to the needs of students
Robin:	We have added, instead of a student having just to show up for their half an hour appointment, they can also set up an appointment that's either chat, by phone, or Zoom, which has become, it's like Skype or Facebook, become incredibly popular because we have set it up so we can share screens, so the student is literally in your office without being there. This has increased our participation in appointments, and decreased significantly no-shows, because a student, whether they're at work on a lunch break or home babysitting, can get right online with Zoom on their computer and meet with their counselor during a specific time, and that has been huge for us to add this capability	A student ~~having just to show up for their half an hour appointment, they~~ can ~~also~~ set up an appointment that's either chat, by phone, or Zoom, which has ~~become, it's like Skype or Facebook,~~ become incredibly popular. ~~because~~ we have set it up so we can share screens, so the student is ~~literally~~ in your office ~~without being there~~. This has **increased our participation in appointments, and decreased significantly no-shows.** because a student, whether they're at work on a lunch break or home babysitting, can get right online with Zoom on their computer and meet with their counselor during a specific time, **and that has been huge for us to add this capability**		